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PROCUREMENT SECTION
CURRENT SERIAL RECORDS

WATER SUPPLY OUTLOOK FOR MONTANA

Prepared by

U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Collaborating with

MONTANA AGRICULTURAL EXPERIMENT STATION

Data included in this report were obtained by the agencies named above in cooperation with Federal, State, and private organizations listed on the inside back cover of this report.

**SNOW PILLOW RECORDS
1973 WATER YEAR**

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 209, 511 N. W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	204 E. 5th. Ave., Room 217, Anchorage, Alaska 99501
Arizona	6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 970, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84111
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82601

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



WATER SUPPLY OUTLOOK FOR MONTANA

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued by

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MONTANA FALL SUMMARY
October 1, 1973

* * * * *

*
* As predicted during the early spring months
* of this season, the water supply in western
* Montana was one of the lowest experienced in
* recent years. Some drainages in the extreme
* southwestern part of Montana had average
* spring and summer runoff.
*
* Nearly all irrigation reservoirs have well
* below average storage with many reservoirs
* dry or nearly dry.
*
* * * * *

COLUMBIA RIVER DRAINAGE

The 1973 snow season began on dry soils in western areas, while soils nearer the Continental Divide from Butte to the Canadian border contained about average moisture. Since then, precipitation has been below average. Snowpacks at the peak of the snow accumulation period were in the 55 to 75 percent average range. Spring and summer precipitation was less than 70 percent average in all basins. Consequently, streamflow was very low with April through September volumes less than 50 percent average in the upper Clark Fork area. Flows in other streams were between one-half and two-thirds their normal volume.

Storage in irrigation reservoirs is generally depleted. Soils are dry and unless the snowpack approaches normal this winter, shortages of irrigation water supplies will be common next summer.

MISSOURI RIVER DRAINAGE

At the beginning of the snow season, mountain soils had more than average moisture in the extreme southern areas and about average elsewhere. The snowpack was quite variable throughout the area with northern tributaries receiving only two-thirds to three-quarters of their normal amounts. Drainages to the south received more snowfall throughout the winter and fairly large amounts during April, resulting in a near average snowpack in portions of the Gallatin and Madison River headwaters. Spring and summer precipitation followed the snowfall pattern, with well below average amounts in areas north of Townsend, below average amounts in most of the Jefferson River drainage, and near or above average precipitation in the Madison and Gallatin River drainages. Resultant April through September streamflow was less than one-half average in the Sun, Teton and Marias River drainages, increasing to near average in some drainages in the southern headwaters area.

Reservoirs in the low runoff areas have very low carryover storage and snowpack this winter will have to approach average to refill these reservoirs and have adequate irrigation water supplies next summer.

YELLOWSTONE RIVER DRAINAGE

Mountain soils in the Yellowstone River drainage were wetter than usual prior to last season's snowfall. The winter snowpack was about 80 percent average near the first of April but heavy snowfall during April left the May 1 snowpack near average. Spring and summer precipitation was generally near or above average. The combination of these climatic factors resulted in near to a little below average April through September runoff from most drainages. Streamflow from the Yellowstone headwaters in Yellowstone National Park was a little less with runoff about 20 percent below average.

SOIL MOISTURE

JULY 1, 1973

DRAINAGE BASIN and/or STATION		Profile (Inches)		Date of Survey	Soil Moisture (Inches)		
Name	Elevation	Depth	Capacity		This Year	Last Year	Average †

COLUMBIA RIVER BASINKootenai

Baree Trail	3800	48	7.5			5.8	5.4
Murphy Lake R. S.	3000	48	22.6	7/03	19.1	19.4	20.2
Raven	3050	48	23.0			13.6	18.0

Flathead

Desert Mountain	5600	54	8.4	7/02	8.2	8.7	8.6
Marias Pass	5250	54	6.5	7/05	5.4	6.7	5.4

Clark Fork

Black Pine	7100	48	10.0	6/28	9.0	8.7	8.8
Lubrecht Forest	4100	48	26.8	7/04	14.0	-	-
Seeley Lake R. S.	4030	48	11.9	7/03	4.4	9.6	-
Skalkaho Summit	7260	48	10.8	6/28	10.5	9.4	10.1

Bitterroot

Gibbons Pass	7100	48	7.1	6/28	6.0	6.3	6.4
Lolo Pass	5250	48	10.6	6/28	7.0	9.9	9.7

MISSOURI RIVER BASINBeaverhead

Lakeview	6700	48	15.3	7/02	16.8	15.7	13.7
----------	------	----	------	------	------	------	------

Madison

West Yellowstone	6700	48	6.5	7/02	3.0	2.9	3.0
------------------	------	----	-----	------	-----	-----	-----

Gallatin

Bridger Bowl	7250	48	17.0	6/29	15.6	15.8	16.2
College Site No. 2	4856	54	17.7	6/29	17.3	14.7	13.1
Lick Creek	6860	48	18.8			17.6	17.9
Twenty-One Mile	7150	48	10.0	7/02	8.4	9.0	8.8

Missouri Main Stem

Kings Hill	7420	48	11.8	6/29	10.3	10.0	10.7
Stemple Pass	6350	48	5.9			4.7	5.1

Milk

Beaver Creek	3950	48	20.9	6/26	16.3	9.2	-
Rocky Boy	4700	36	10.1	6/26	9.4	7.7	-

Yellowstone

Battle Ridge	6020	48	17.6	6/29	12.8	12.9	15.0
Northeast Entrance	7350	48	9.4	7/02	8.0	8.7	9.0
PMC Dryland	3700	48	20.7	7/02	8.9	-	-
PMC Headquarters	3656	48	22.6	7/02	20.9	-	-

SOIL MOISTURE

AUGUST 1, 1973

DRAINAGE BASIN and/or STATION		Profile (Inches)		Date of Survey	Soil Moisture (Inches)		
Name	Elevation	Depth	Capacity		This Year	Last Year	Average †

COLUMBIA RIVER BASINKootenai

Baree Trail	3800	48	7.5	8/03	2.7	4.2	-
Murphy Lake R. S.	3000	48	22.6	8/01	18.5	19.0	18.9
Raven	3050	48	23.0	8/03	13.2	-	17.2

Flathead

Desert Mountain	5600	54	8.4	7/30	5.7	7.1	6.5
Marias Pass	5250	54	6.5	7/26	4.0	6.8	4.2

Clark Fork

Black Pine	7100	48	10.0	7/31	8.1	8.5	8.6
Lubrecht Forest	4100	48	26.8	8/06	12.7	-	-
Seeley Lake R. S.	4030	48	11.9	8/02	3.8	7.0	-
Skalkaho Summit	7260	48	10.8	7/31	10.4	10.4	10.4

Bitterroot

Gibbons Pass	7100	48	7.1	7/30	3.4	4.6	5.0
Lolo Pass	5250	48	10.6	7/31	3.5	7.0	6.0

MISSOURI RIVER BASINBeaverhead

Lakeview	6700	48	15.3	8/01	14.1	13.8	9.6
----------	------	----	------	------	------	------	-----

Madison

West Yellowstone	6700	48	6.5	8/04	2.4	1.9	2.2
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Gallatin

Bridger Bowl	7250	48	17.0	7/30	15.2	15.7	15.6
College Site No. 2	4856	54	17.7	7/27	10.9	11.5	10.2
Lick Creek	6860	48	18.8	7/31	12.5	15.0	15.3
Twenty-One Mile	7150	48	10.0	8/04	5.2	5.6	5.6

Missouri Main Stem

Kings Hill	7420	48	11.8	7/27	9.5	9.5	9.2
Stemple Pass	6350	48	5.9	8/02	3.2	4.0	4.1

Milk

Beaver Creek	3950	48	20.9	7/31	7.5	7.9	-
Rocky Boy	4700	36	10.1	7/31	6.3	8.2	-

Yellowstone

Battle Ridge	6020	48	17.6	7/30	8.0	11.4	11.4
Northeast Entrance	7350	48	9.4	8/01	5.6	-	6.7
PMC Dryland	3700	48	20.7	7/30	7.0	-	-
PMC Headquarters	3656	48	22.6	7/30	22.8	-	-

SOIL MOISTURE

SEPTEMBER 1, 1973

DRAINAGE BASIN and/or STATION		Profile (Inches)		Date of Survey	Soil Moisture (Inches)		
Name	Elevation	Depth	Capacity		This Year	Last Year	Average †

COLUMBIA RIVER BASINKootenai

Baree Trail	3800	48	7.5	9/04	2.6	2.6	4.5
Murphy Lake R. S.	3000	48	22.6	9/05	18.6	18.4	18.8
Raven	3050	48	23.0	9/04	13.2	13.3	16.0

Flathead

Desert Mountain	5600	54	8.4	9/04	4.9	6.1	5.2
Marias Pass	5250	54	6.5	8/28	3.1	5.9	3.6

Clark Fork

Black Pine	7100	48	10.0	8/30	7.1	8.3	8.1
Lubrecht Forest	4100	48	26.8	9/11	12.6	13.4	-
Seeley Lake R. S.	4030	48	11.9	9/04	3.8	4.0	-
Skalkaho Summit	7260	48	10.8	8/30	9.0	10.2	9.8

Bitterroot

Gibbons Pass	7100	48	7.1	8/27	2.6	3.1	3.9
Lolo Pass	5250	48	10.6	8/31	2.2	4.3	4.3

MISSOURI RIVER BASINBeaverhead

Lakeview	6700	48	15.3	9/01	12.9	14.5	8.4
----------	------	----	------	------	------	------	-----

Madison

West Yellowstone	6700	48	6.5	8/31	1.8	1.7	2.0
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Gallatin

Bridger Bowl	7250	48	17.0	9/04	15.3	15.7	16.1
College Site No. 2	4856	54	17.7	8/31	9.4	8.7	9.1
Lick Creek	6860	48	18.8	9/04	11.4	11.4	15.7
Twenty-One Mile	7150	48	10.0	8/31	3.4	4.7	3.9

Missouri Main Stem

Kings Hill	7420	48	11.8	8/30	6.6	9.4	7.8
Stemple Pass	6350	48	5.9	8/31	3.0	3.4	3.8

Milk

Beaver Creek	3950	48	20.9	8/29	7.3	6.3	-
Rocky Boy	4700	36	10.1	8/29	6.0	6.5	-

Yellowstone

Battle Ridge	6020	48	17.6	9/04	8.2	9.0	9.4
Northeast Entrance	7350	48	9.4	8/31	4.2	7.2	5.9
PMC Dryland	3700	48	20.7	9/03	6.3	-	-
PMC Headquarters	3656	48	22.6	9/03	22.7	-	-

SOIL MOISTURE

OCTOBER 1, 1973

DRAINAGE BASIN and/or STATION		Profile (Inches)		Date of Survey	Soil Moisture (Inches)		
Name	Elevation	Depth	Capacity		This Year	Last Year	Average †

COLUMBIA RIVER BASIN

Kootenai

Baree Trail	3800	48	7.5	10/01	4.9	4.7	5.2
Murphy Lake R. S.	3000	48	22.6			18.5	18.6
Raven	3050	48	23.0	10/01	13.3	13.5	17.1

Flathead

Desert Mountain	5600	54	8.4	9/27	5.7	5.9	5.8
Marias Pass	5250	54	6.5	9/27	3.1	5.6	4.0

Clark Fork

Black Pine	7100	48	10.0	10/01	8.3	8.3	8.0
Lubrecht Forest	4100	48	26.8	10/02	12.9	14.2	-
Seeley Lake R. S.	4030	48	11.9	10/01	3.8	4.0	4.2
Skalkaho Summit	7260	48	10.8	10/01	10.2	10.2	10.2

Bitterroot

Gibbons Pass	7100	48	7.1	9/27	4.0	2.8	4.4
Lolo Pass	5250	48	10.6	9/28	3.1	3.7	4.6

MISSOURI RIVER BASIN

Beaverhead

Lakeview	6700	48	15.3	9/28	14.0	14.4	7.6
----------	------	----	------	------	------	------	-----

Madison

West Yellowstone	6700	48	6.5	10/02	2.5	3.4	2.6
------------------	------	----	-----	-------	-----	-----	-----

Gallatin

Bridger Bowl	7250	48	17.0	10/01	15.3	15.8	15.8
College Site No. 2	4856	54	17.7	9/28	11.7	10.1	9.9
Lick Creek	6860	48	18.8	10/04	12.5	12.1	16.2
Twenty-One Mile	7150	48	10.0	10/02	6.2	7.6	4.6

Missouri Main Stem

Kings Hill	7420	48	11.8	9/28	8.2	8.7	7.3
Stemple Pass	6350	48	5.9	9/28	4.0	3.5	3.8

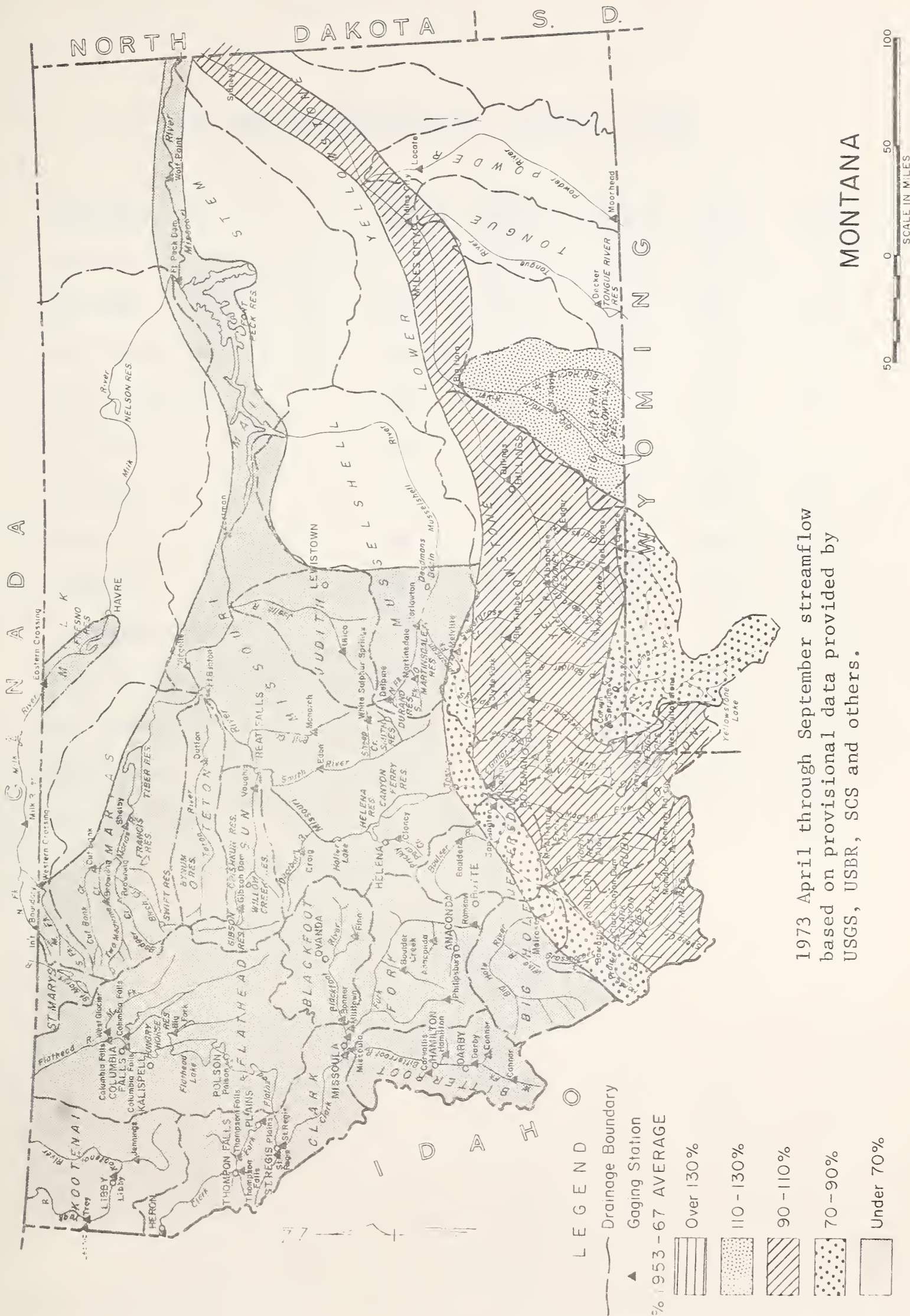
Milk

Beaver Creek	3950	48	20.9	9/27	7.1	6.6	-
Rocky Boy	4700	36	10.1	9/27	6.2	6.7	-

Yellowstone

Battle Ridge	6020	48	17.6	10/01	7.9	7.5	10.0
Northeast Entrance	7350	48	9.4	9/27	5.8	9.8	6.8
PMC Dryland	3700	48	20.7	10/01	6.8	-	-
PMC Headquarters	3656	48	22.6	10/01	21.2	-	-

+ Average for period of record.



1973 April through September streamflow based on provisional data provided by USGS, USBR, SCS and others.

1973 SNOW COVER COMPARISONS - PERCENT AVERAGE

<u>DRAINAGE</u>	<u>JAN. 1</u>	<u>FEB. 1</u>	<u>MAR. 1</u>	<u>APR. 1</u>	<u>MAY 1</u>
Kootenai	-	82	74	72	67
Flathead	98	70	73	74	74
Upper Clark Fork	82	65	65	72	69
Lower Clark Fork	82	73	64	61	54
Bitterroot	84	78	72	70	70
Jefferson	77	78	78	85	87
Madison	96	77	81	86	103
Gallatin	96	87	75	85	106
Sun-Marias-Teton	75	63	55	56	58
Missouri Main Stem	75	66	64	72	85
Milk Headwaters	75	63	58	57	78
Yellowstone	100	85	78	79	101
Little Big Horn	-	80	67	85	124

RESERVOIR STORAGE (Thousand Acre Feet) END OF MONTH

Basin or Stream	RESERVOIR	Usable Capacity	Usable Storage		
			This Year	Last Year	Average
COLUMBIA RIVER BASIN					
Kootenai	Koocanusa	4,965.0	2,781.0	2,844.0	-
Flathead	Hungry Horse	3,428.0	2,771.0	3,332.0	3,331.0
	Flathead Lake	1,791.0	1,734.0	1,785.0	1,699.0
	Camas (4)	45.2	9.8	29.7	24.9
	Mission Valley (8)	100.3	9.4	20.0	17.6
Clark Fork	Georgetown Lake	31.0	20.6	30.0	26.7
	Nevada Creek	12.6	-	-	6.5
	Noxon Rapids	334.6	330.6	325.9	321.3
Bitterroot	Como	34.9	0.8	-	1.9
	Painted Rocks	31.7	2.2	28.5	25.2

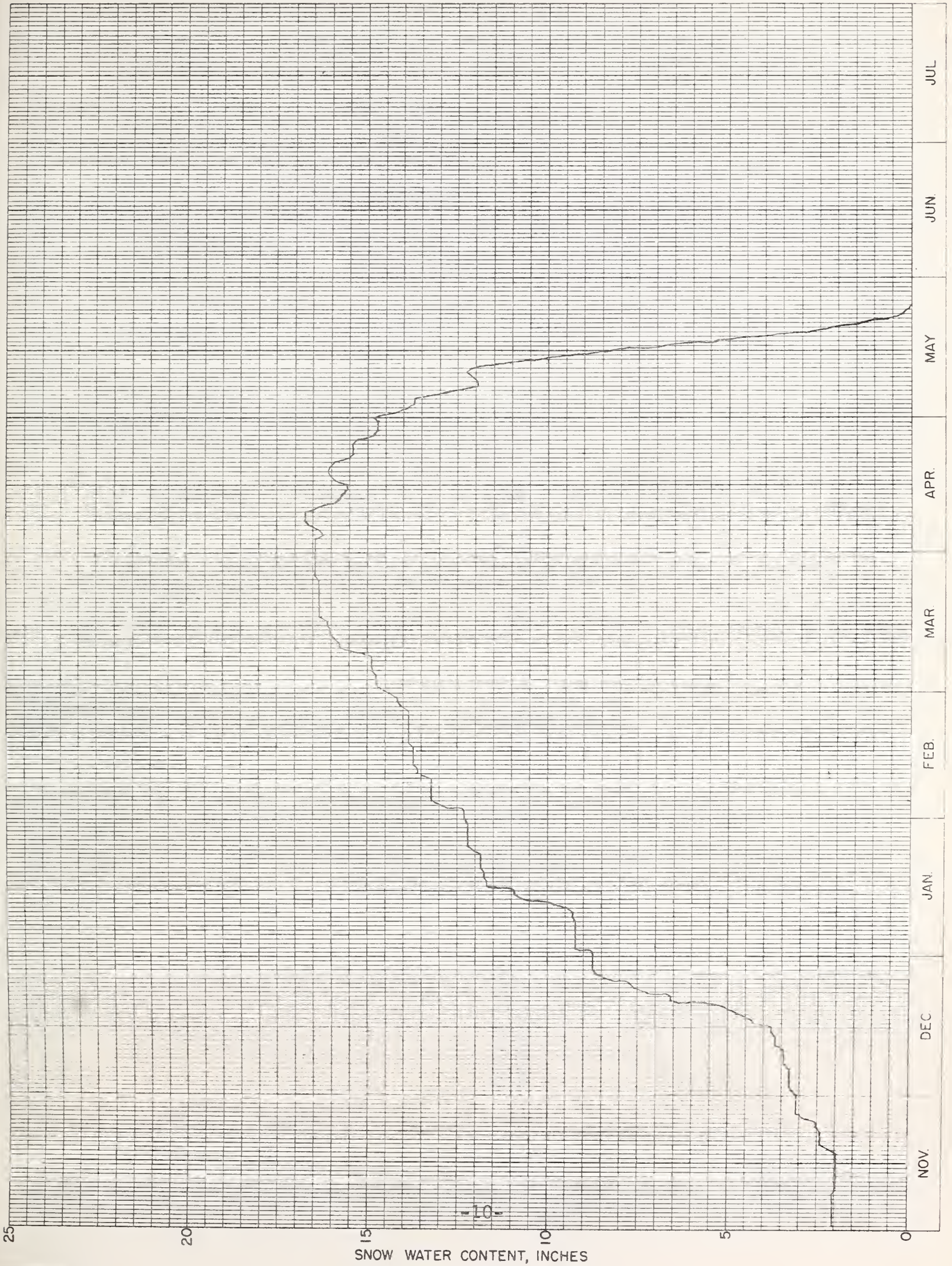
MISSOURI RIVER BASIN

Beaverhead	Clark Canyon	328.0	91.9	131.5	103.0
	Lima	84.0	39.0	41.0	17.3
Ruby	Ruby	38.8	-	13.7	8.6
Madison	Hebgen Lake	377.5	325.7	357.5	299.8
	Ennis Lake	41.0	39.3	27.2	36.5
Gallatin	Middle Creek	8.0	2.8	2.5	2.4
Missouri	Canyon Ferry	3,043.0	1,769.0	1,617.0	1,749.0
	Hauser & Helena	61.9	61.9	63.0	58.6
	Lake Helena	10.4	10.4	10.9	9.5
	Holter Lake	81.9	81.6	81.1	75.7
	Smith River	10.7	0.2	7.7	5.2
	Bair (Durand)	7.0	0.0	1.6	3.3
	Martinsdale	23.1	0.6	8.8	6.6
	Deadman's Basin	72.2	20.1	35.1	33.9
	Fort Peck	19,410.0	15,920.0	17,510.0	11,850.0
Sun	Gibson	105.0	3.0	40.2	35.5
	Willow Creek	32.3	10.3	20.8	19.0
	Pishkun	32.0	3.9	17.9	17.1
Marias	Lower Two Medicine	16.6	0.7	-	3.5
	Four Horns	19.2	8.6	-	11.0
	Swift	30.0	4.4	19.8	13.0
	Lake Frances	112.0	33.2	95.3	83.6
	Tiber	1,347.0	520.0	590.7	689.6
Milk	Fresno	127.2	15.6	74.9	67.8
	Nelson	66.8	22.9	-	44.1
	Lake Sherburne	66.1	8.4	15.7	7.0
Yellowstone	Mystic Lake	20.8	19.0	18.8	20.4
	Tongue River	68.0	-	33.0	20.6
	Cooney	27.5	17.0	16.1	11.0
Big Horn	Big Horn Lake	1,356.0	1,072.0	1,069.0	-

SNOW PILLOW DATA
WATER YEAR 1973

BANFIELD MOUNTAIN

No. 15A08 Elev. 5600' Drainage. Kootenai



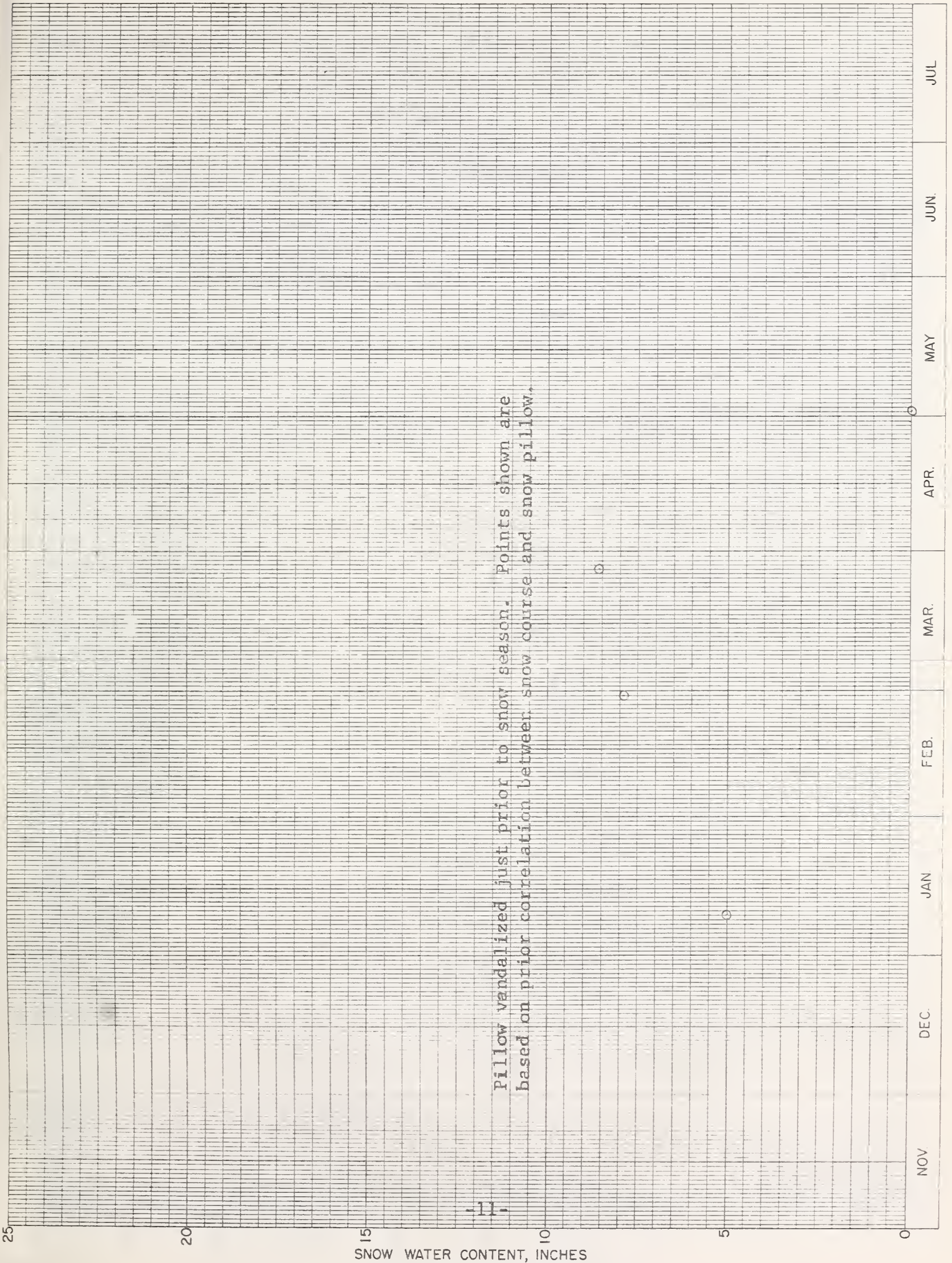
SNOW PILLOW DATA
WATER YEAR 1973

GARVER CREEK

No. 15A05

Elev. 4250'

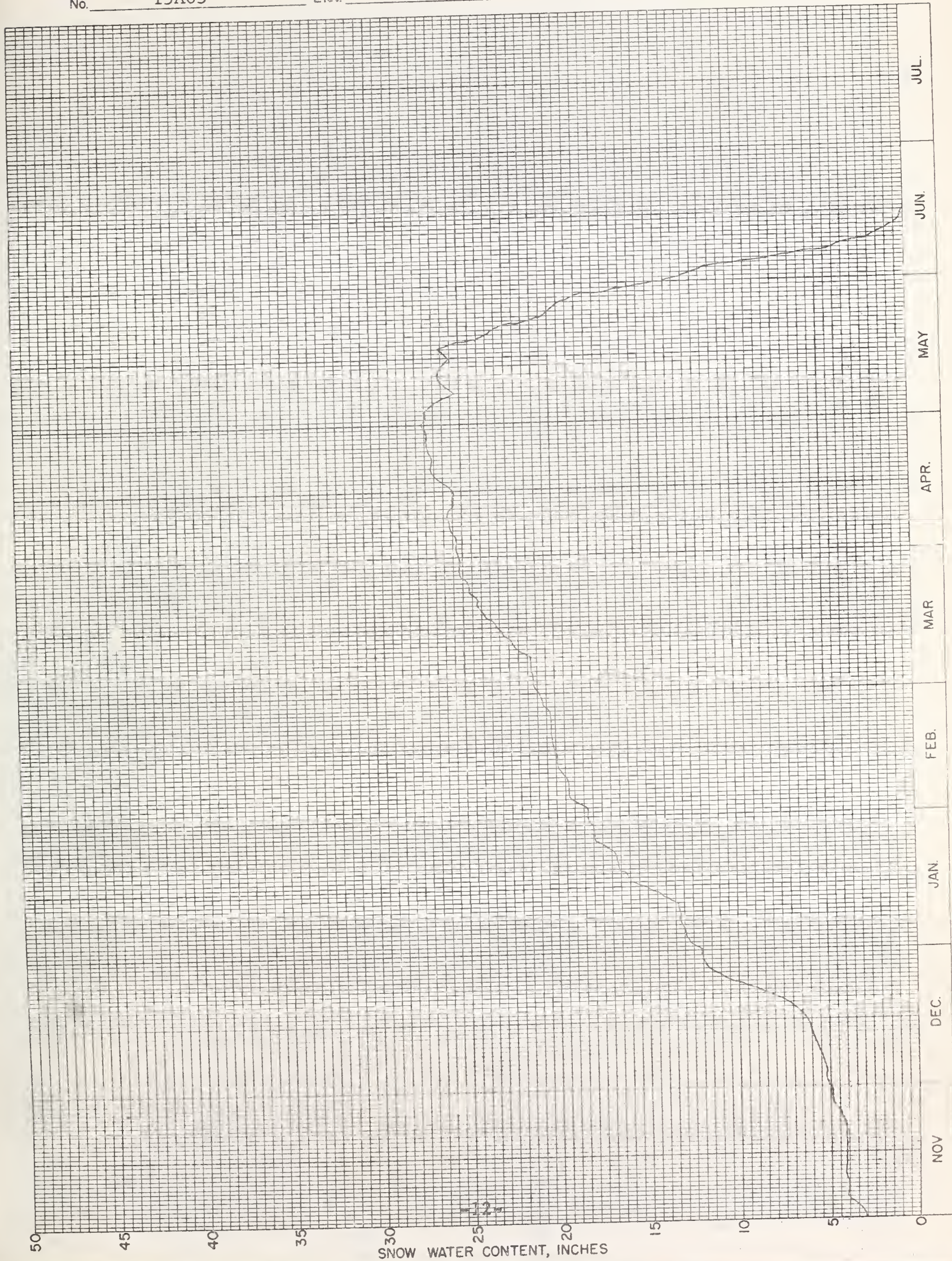
Drainage. Kootenai



SNOW PILLOW DATA
WATER YEAR 1973

HAWKINS LAKE

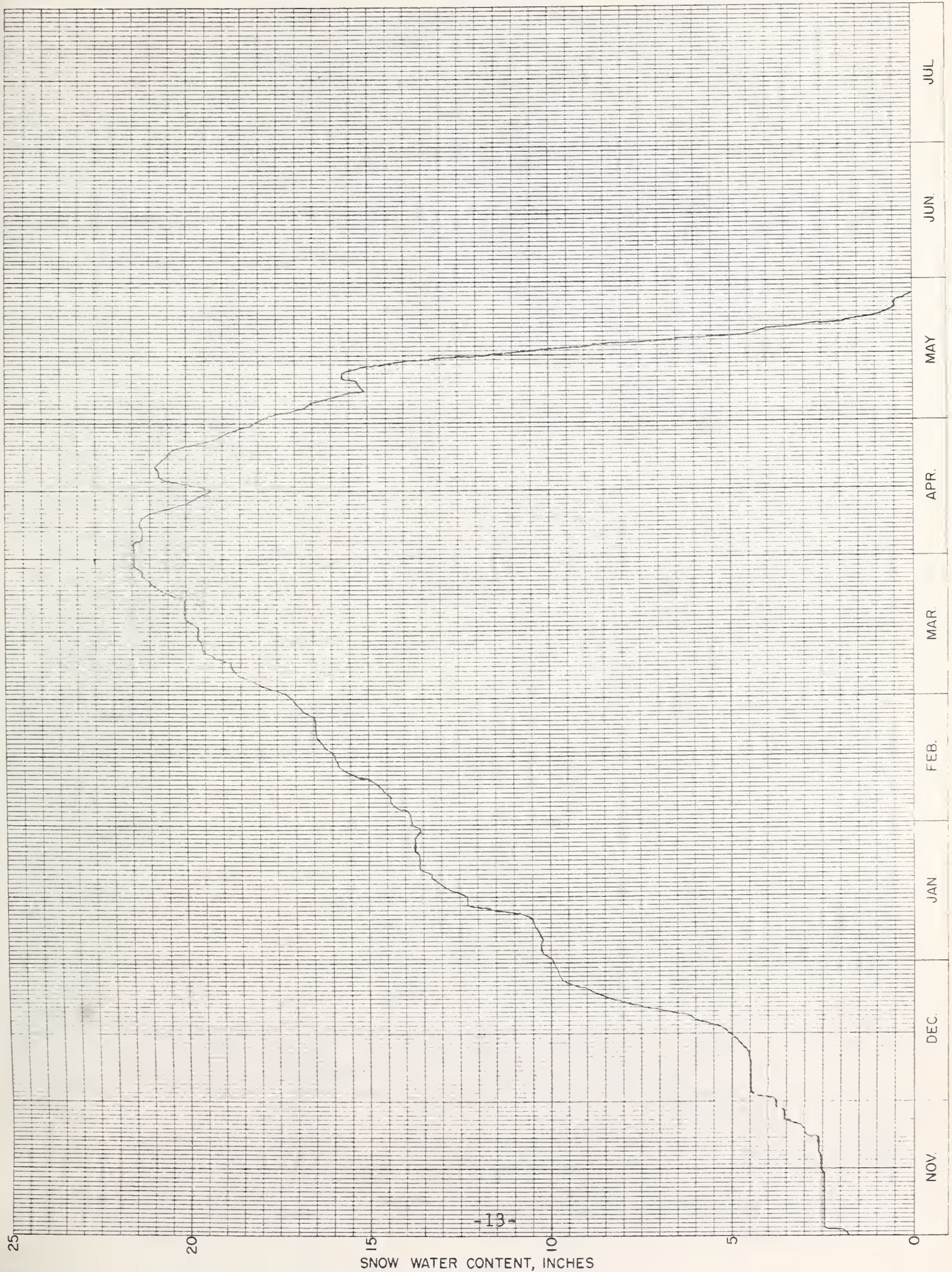
No. 15A03 Elev. 6450' Drainage Kootenai



SNOW PILLOW DATA
WATER YEAR 1973

POORMAN CREEK

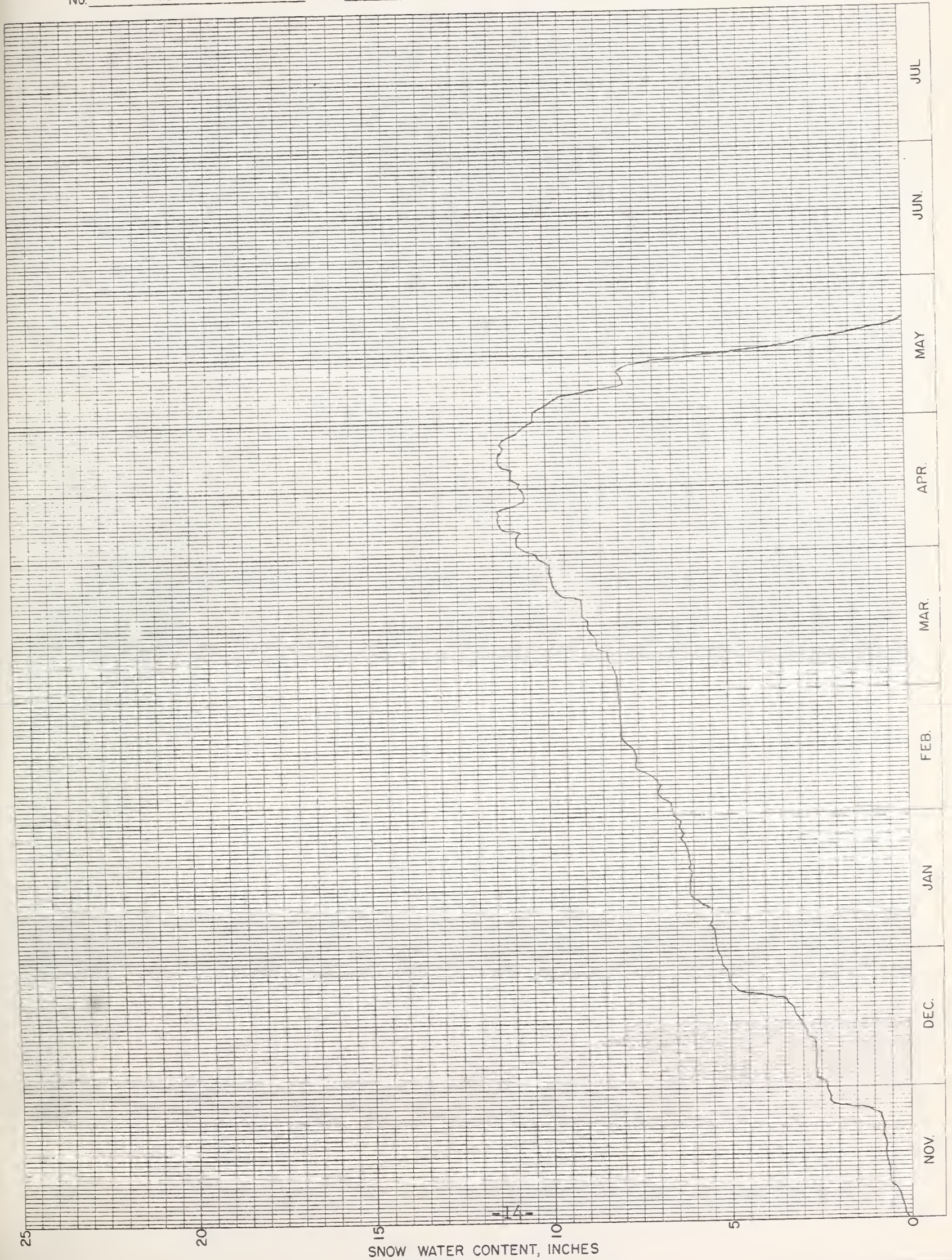
No. 15A12 Elev. 5100' Drainage. Kootenai



SNOW PILLOW DATA
WATER YEAR 1973

BLACK PINE

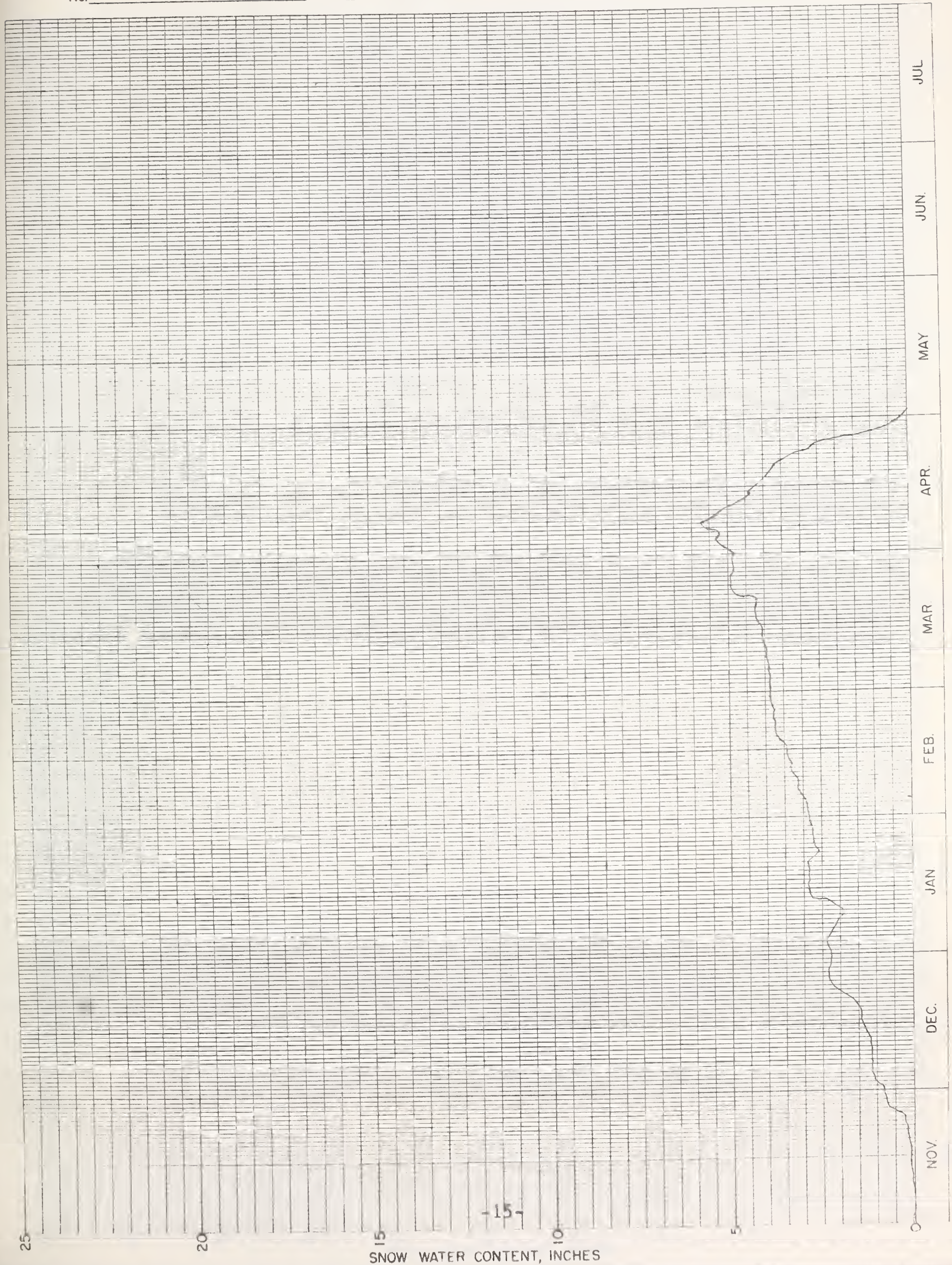
No. 13C13 Elev. 7100' Drainage. Clark Fork



SNOW PILLOW DATA
WATER YEAR 1973

COMBINATION

No. 13C33 Elev. 5600' Drainage. Clark Fork



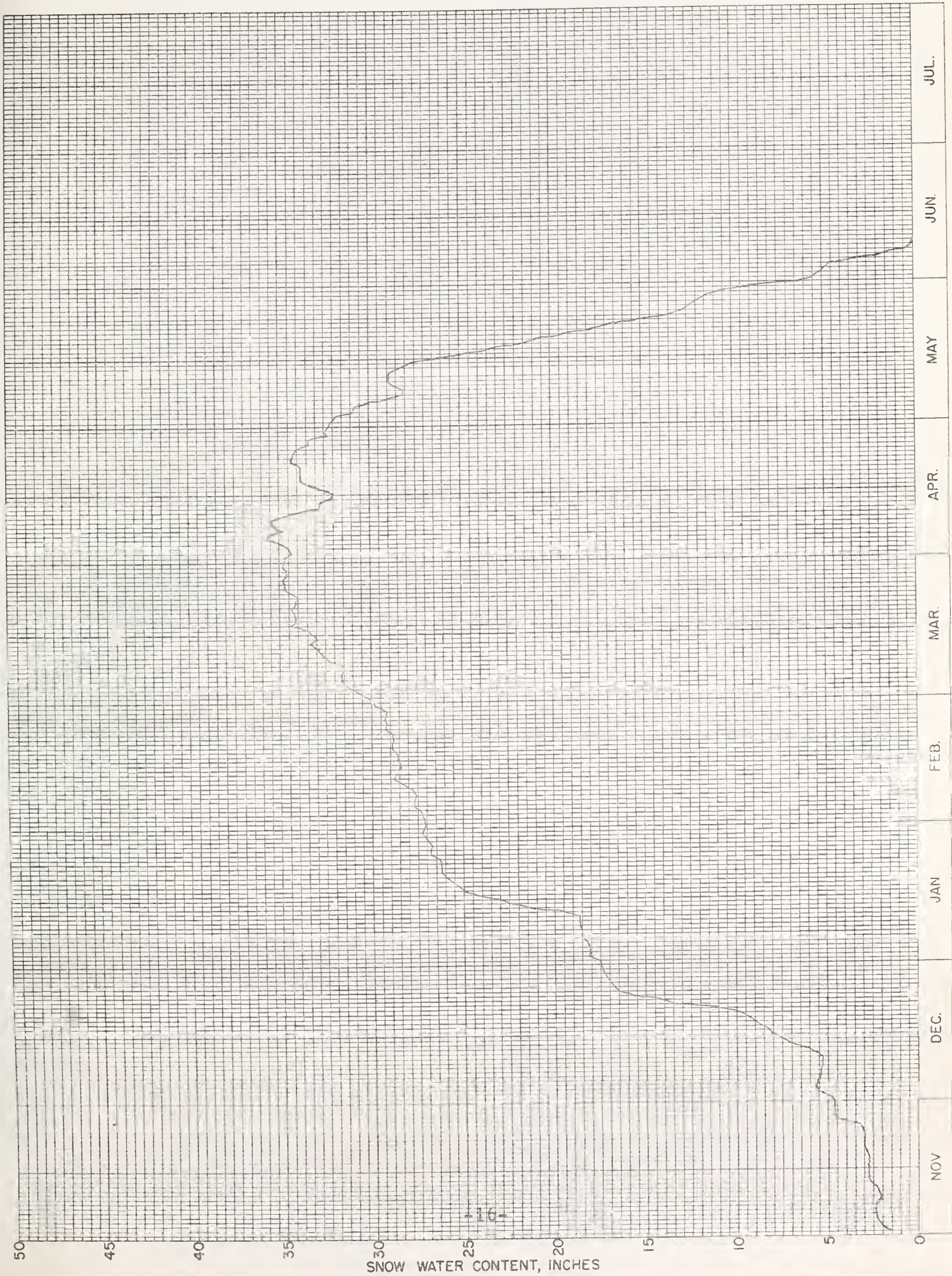
SNOW PILLOW DATA
WATER YEAR 1973

HOODOO BASIN

No. 15C10

Elev. 6000'

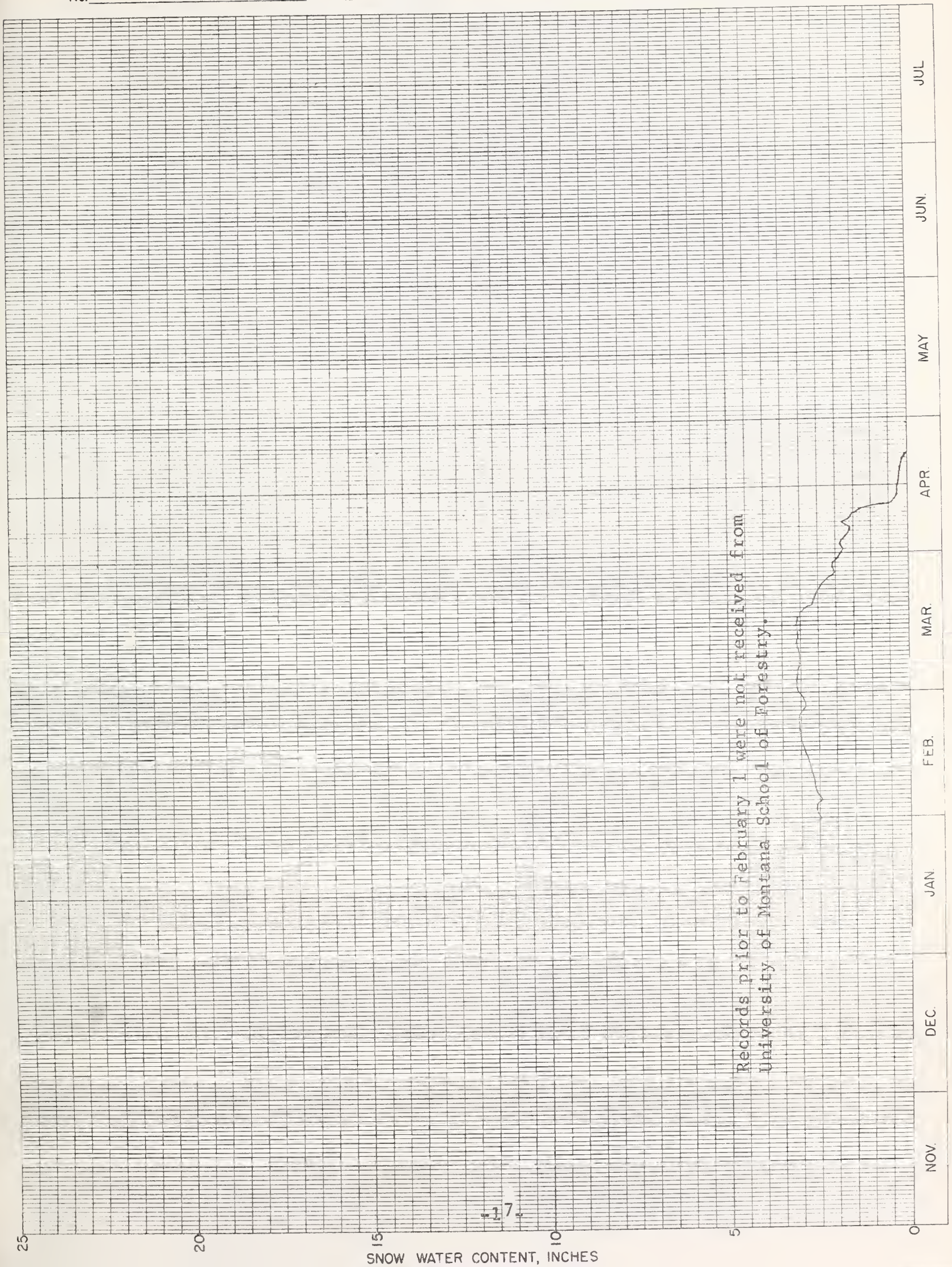
Drainage Clark Fork



SNOW PILLOW DATA
WATER YEAR 1973

LUBRECHT FLUME

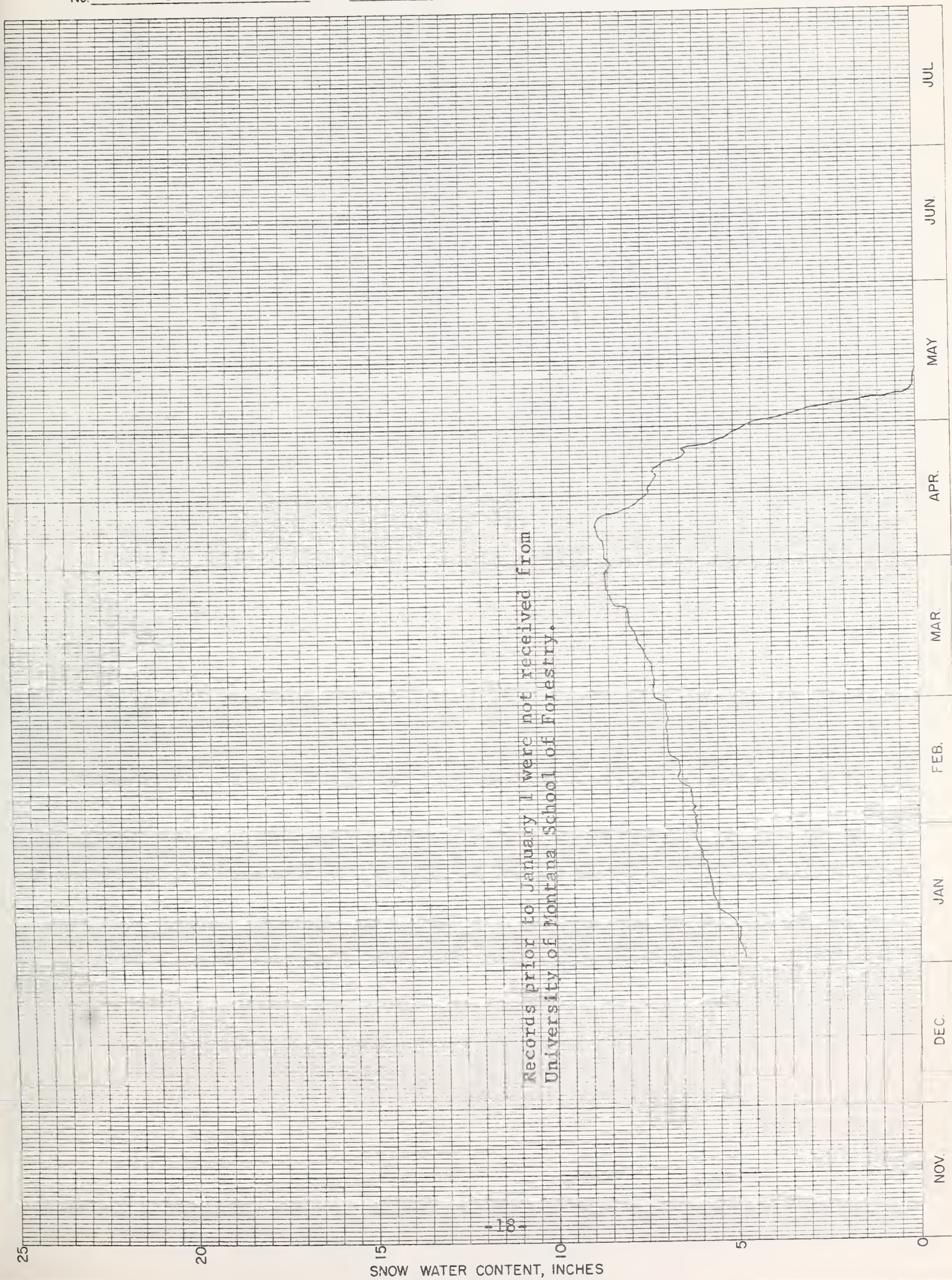
No. 13C38 Elev. 4800' Drainage. Clark Fork



SNOW PILLOW DATA
WATER YEAR 1973

NORTH FORK ELK CREEK

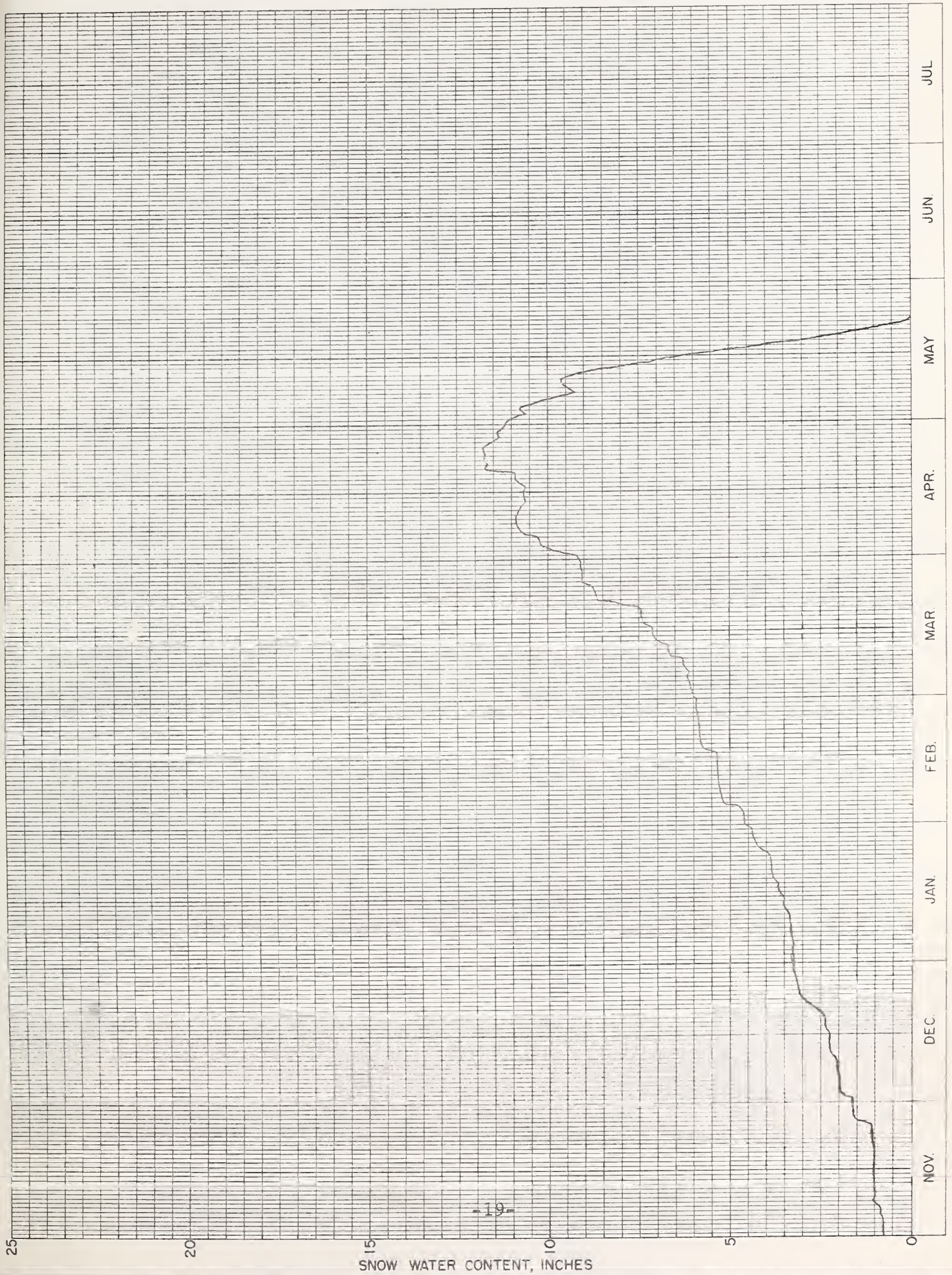
No. 13C31 Elev. 6250' Drainage. Clark Fork



SNOW PILLOW DATA
WATER YEAR 1973

PETERSON MEADOWS

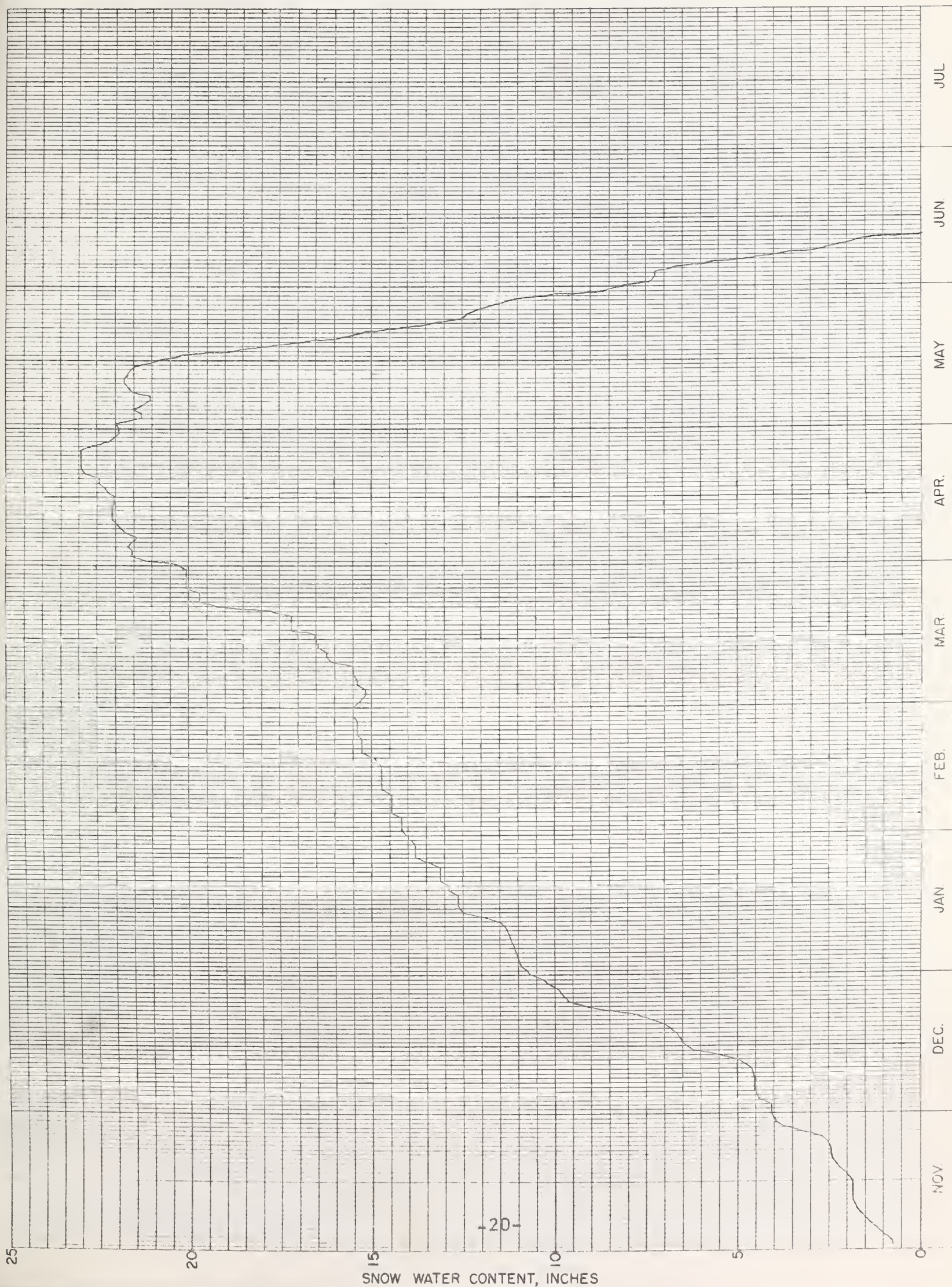
No. 13C36 Elev. 7200' Drainage Clark Fork



SNOW PILLOW DATA
WATER YEAR 1973

SADDLE MOUNTAIN

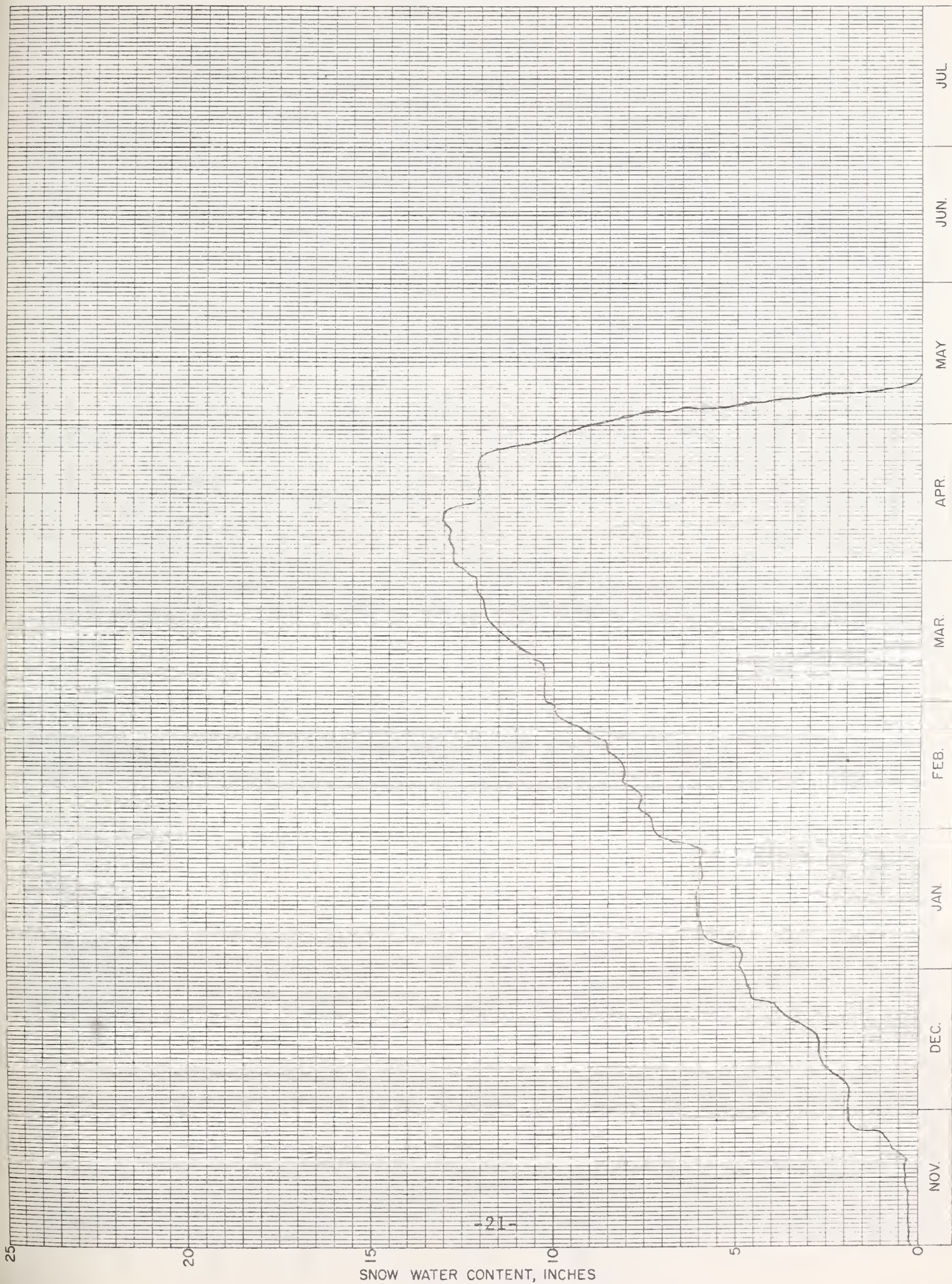
No. 13D22 Elev. 7900' Drainage. Bitterroot



SNOW PILLOW DATA
WATER YEAR 1973

TWELVEMILE CREEK

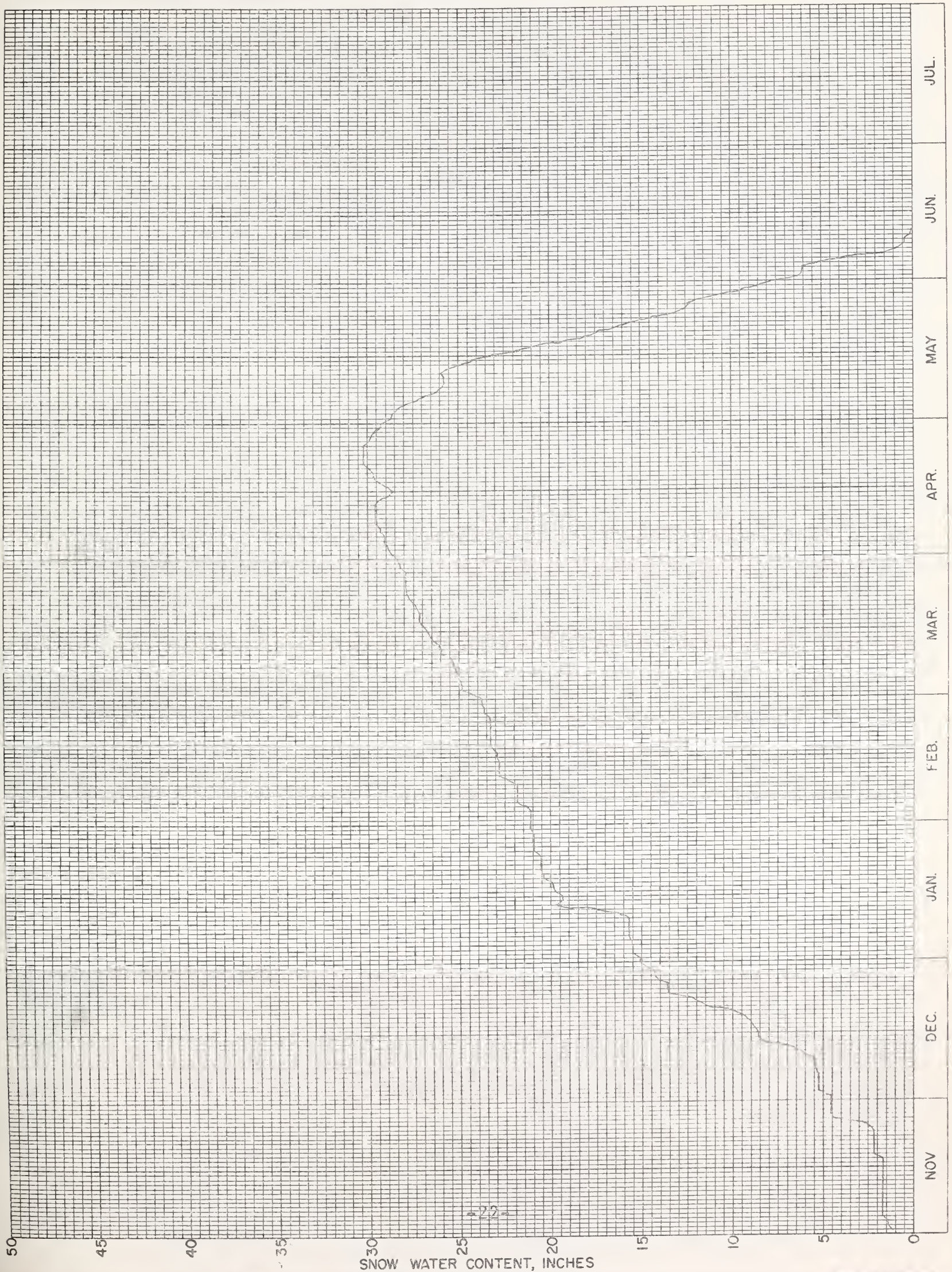
No. 14C13 Elev. 5600' Drainage. Bitterroot



SNOW PILLOW DATA
WATER YEAR 1973

TWIN LAKES

No. 14C12 Elev. 6400' Drainage Bitterroot



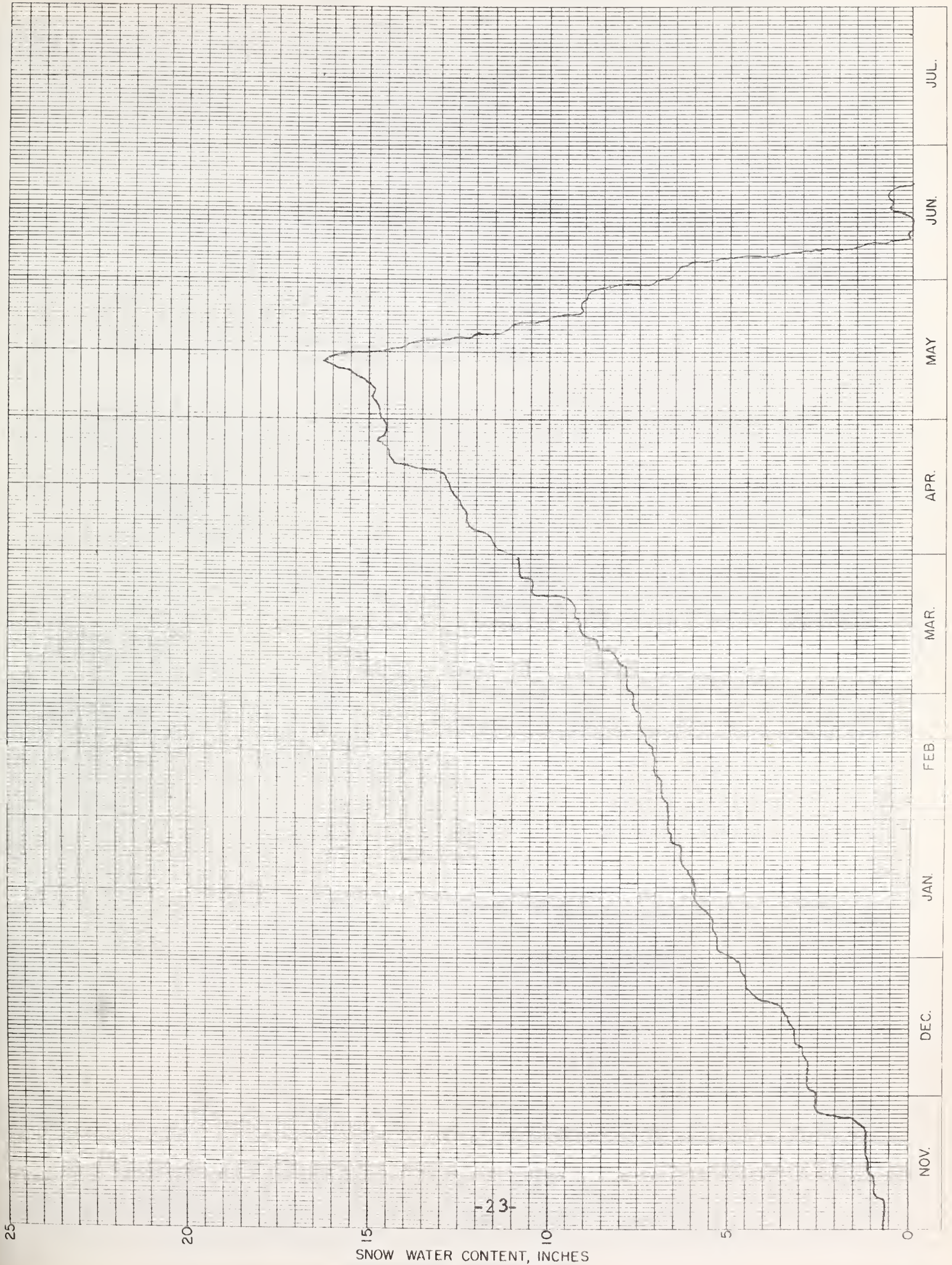
SNOW PILLOW DATA
WATER YEAR 1973

ROCKER PEAK

No. 12C11

Elev. 8000'

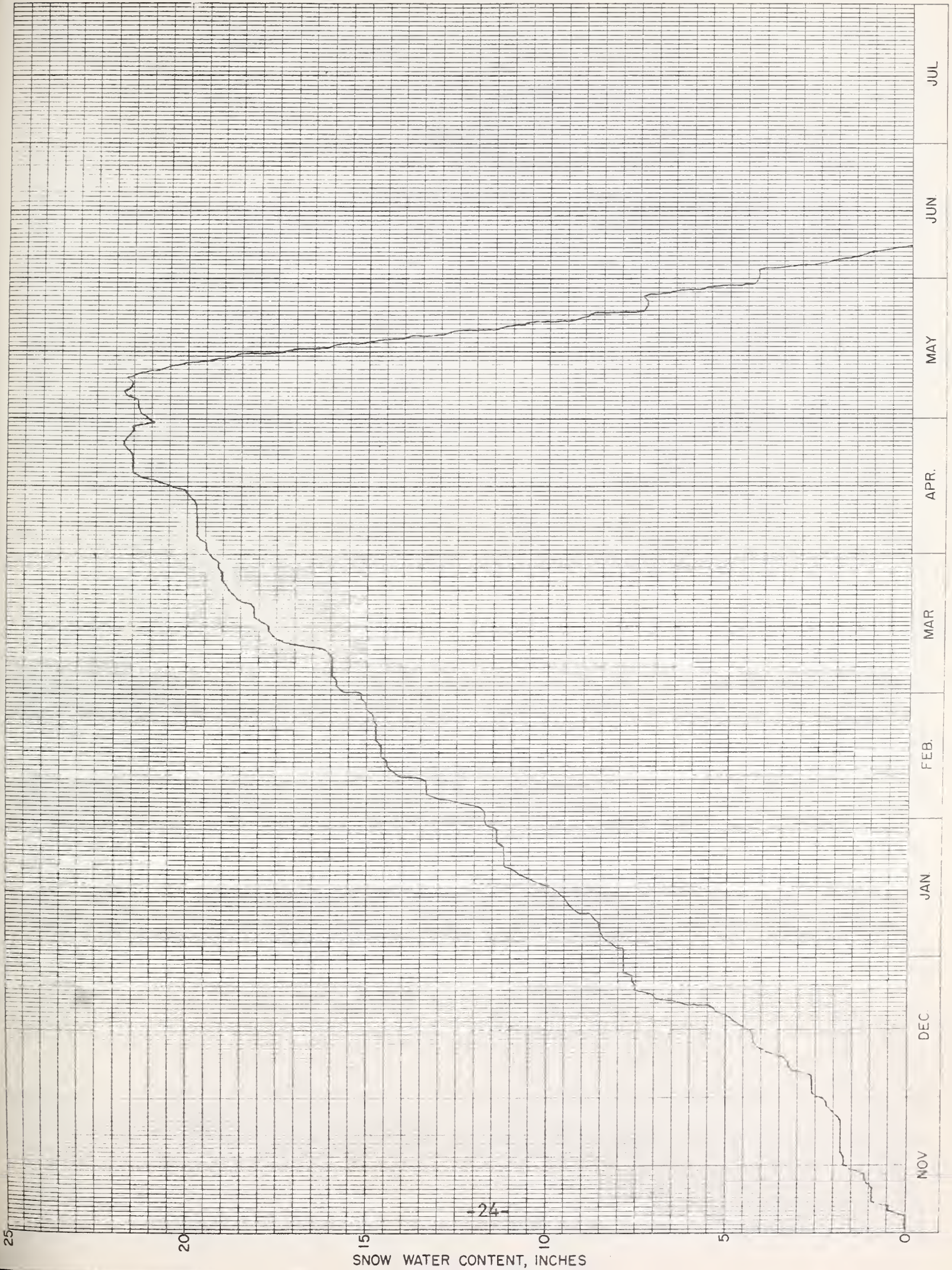
Drainage. Jefferson



SNOW PILLOW DATA
WATER YEAR 1973

MADISON PLATEAU

No. 11E31 Elev. 7750' Drainage. Madison



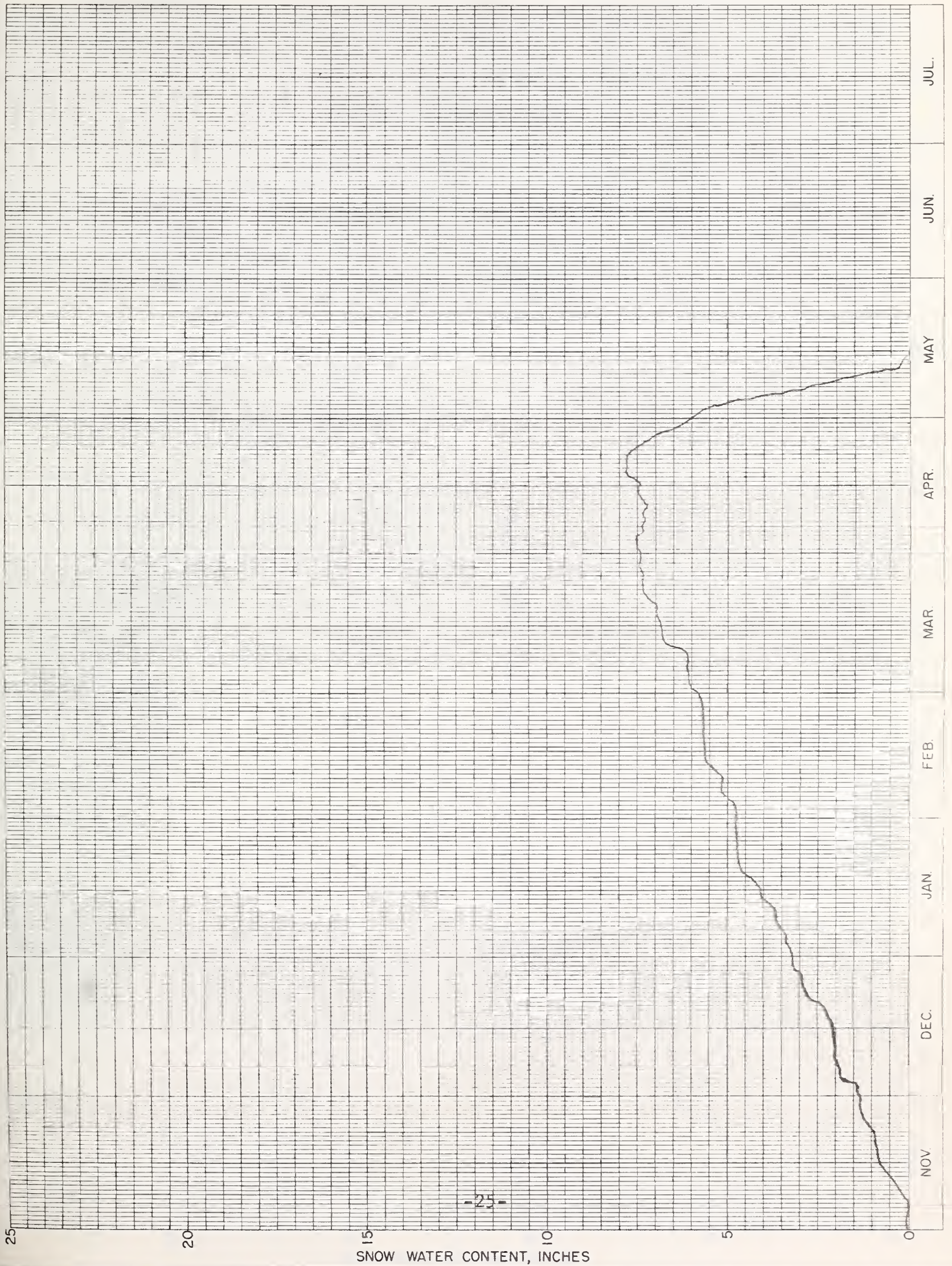
SNOW PILLOW DATA
WATER YEAR 1973

WEST YELLOWSTONE

No. 11E07

Elev. 6700'

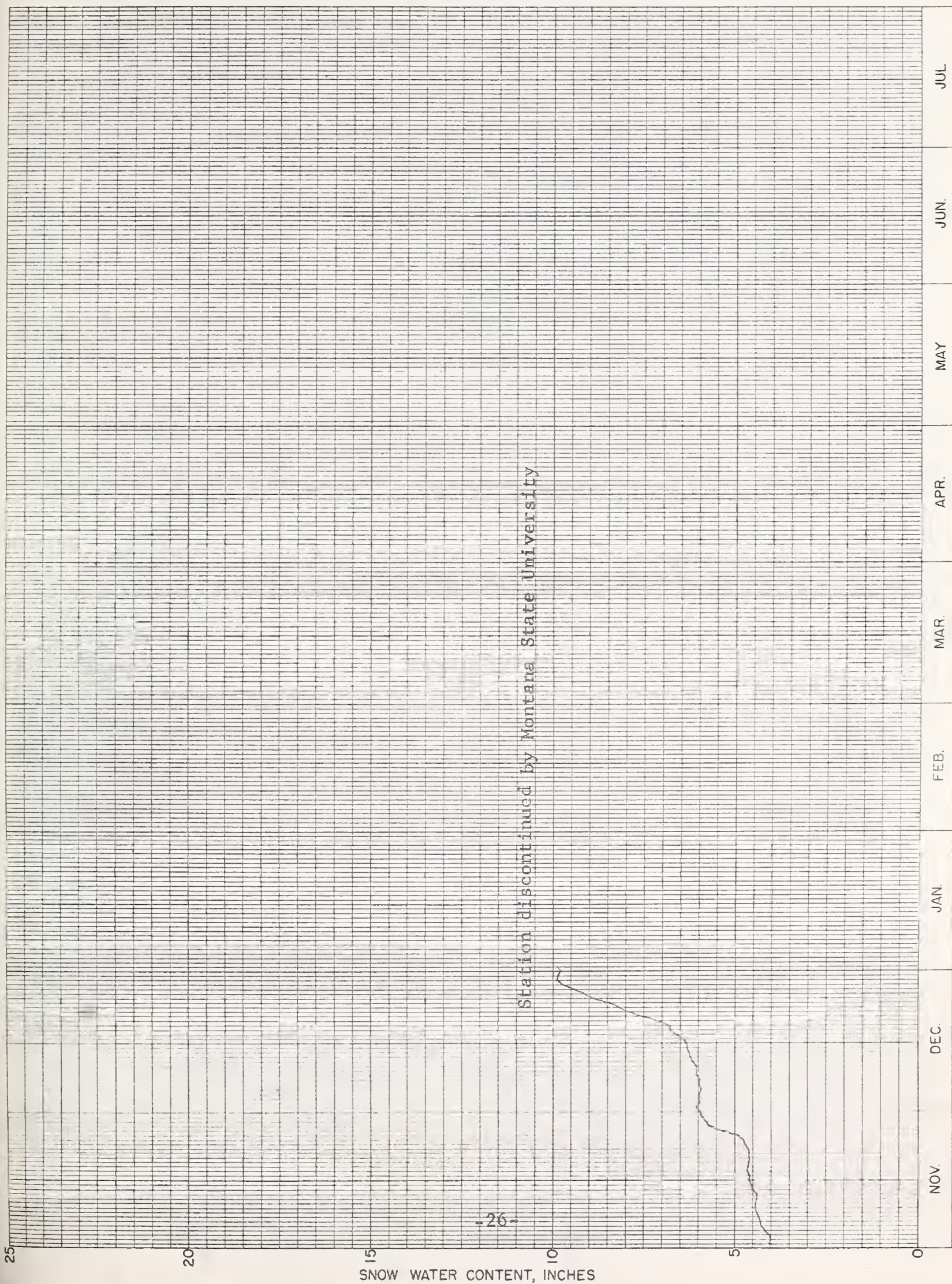
Drainage. Madison



SNOW PILLOW DATA
WATER YEAR 1973

BANGTAIL

No. 10D20 Elev. 7900' Drainage. Gallatin



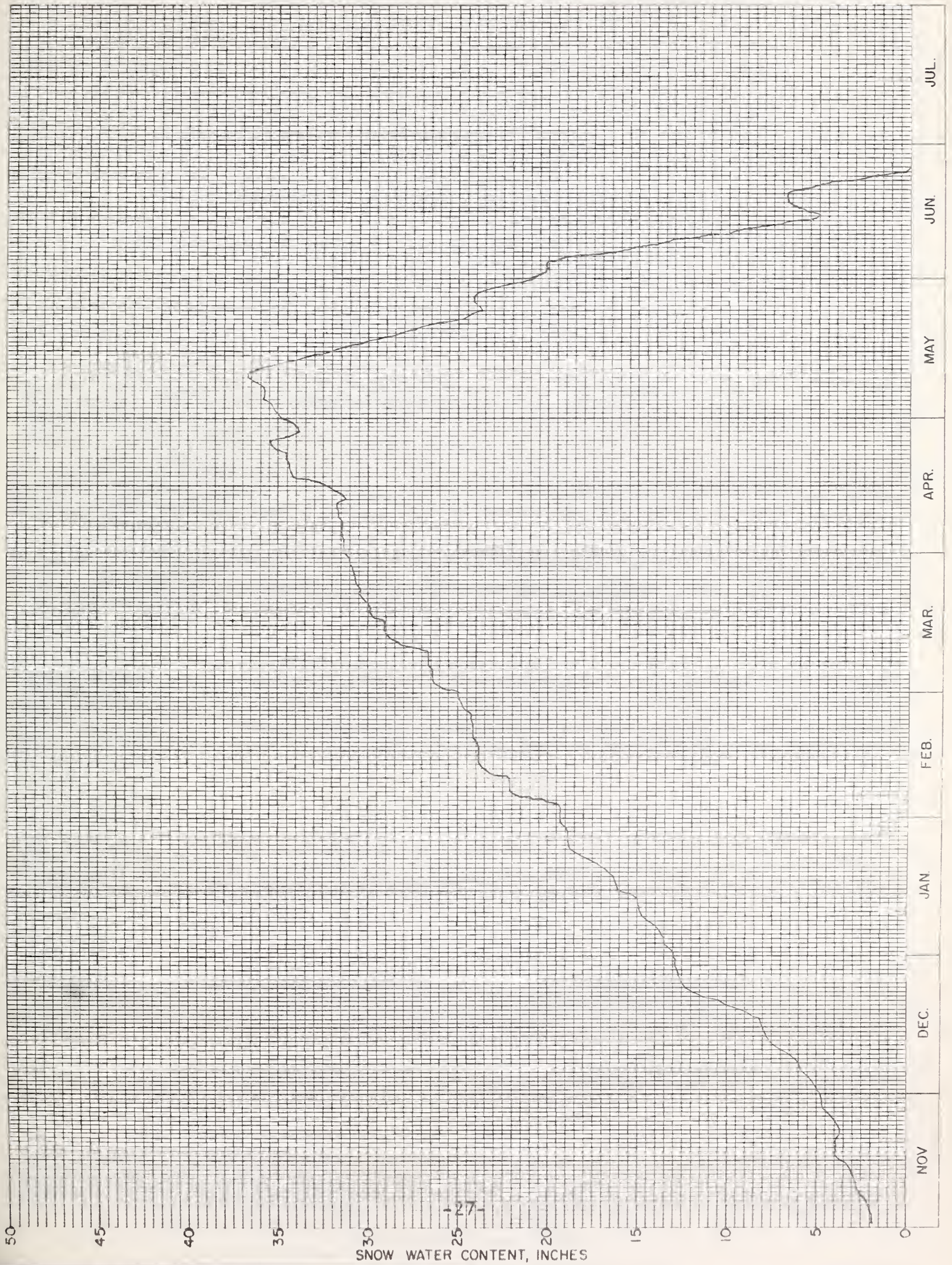
SNOW PILLOW DATA
WATER YEAR 1973

BLACK BEAR

No. 11E35

Elev. 7950'

Drainage Gallatin



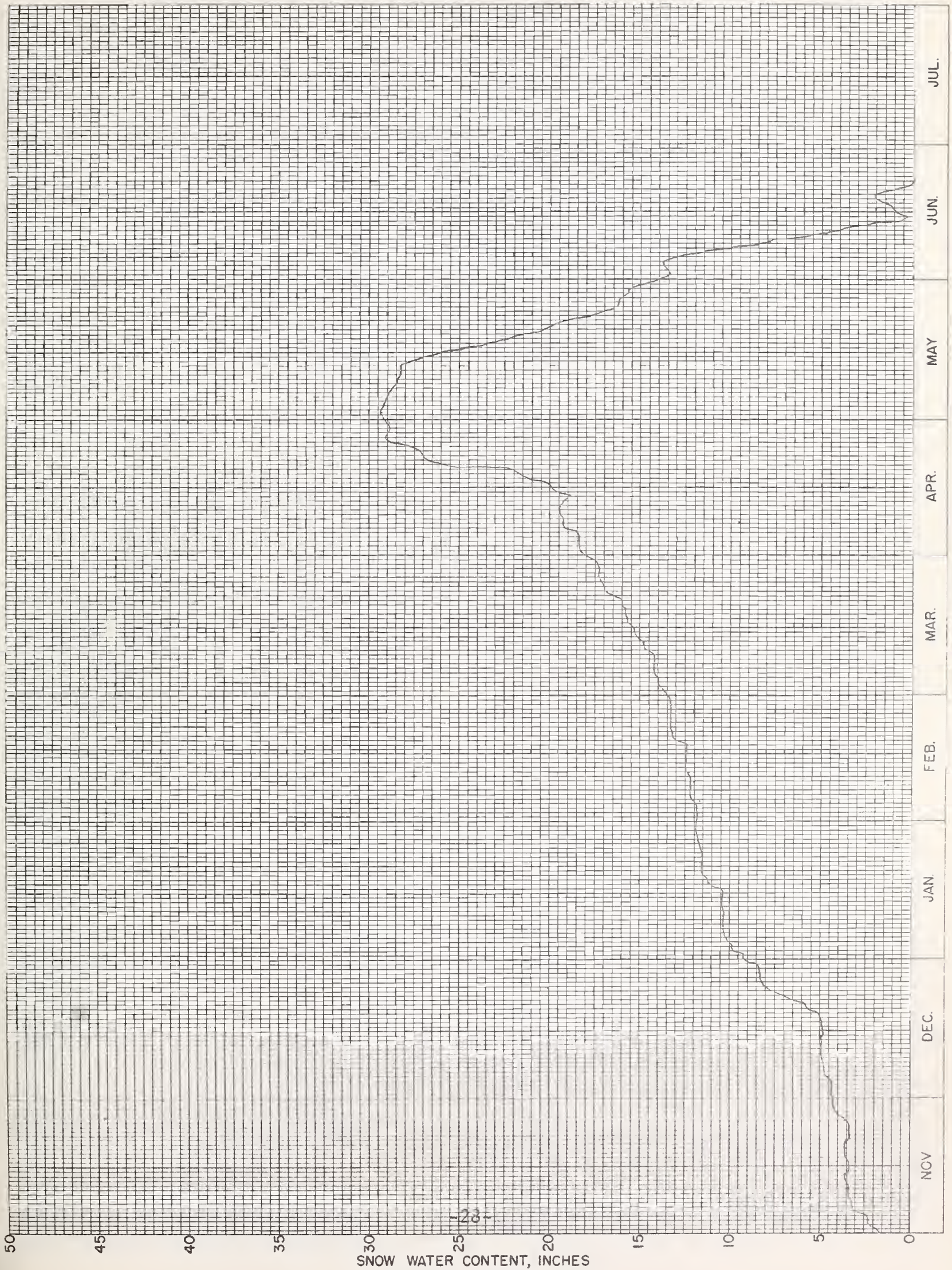
SNOW PILLOW DATA
WATER YEAR 1973

BRIDGER BOWL

No. 10D15

Elev. 7250'

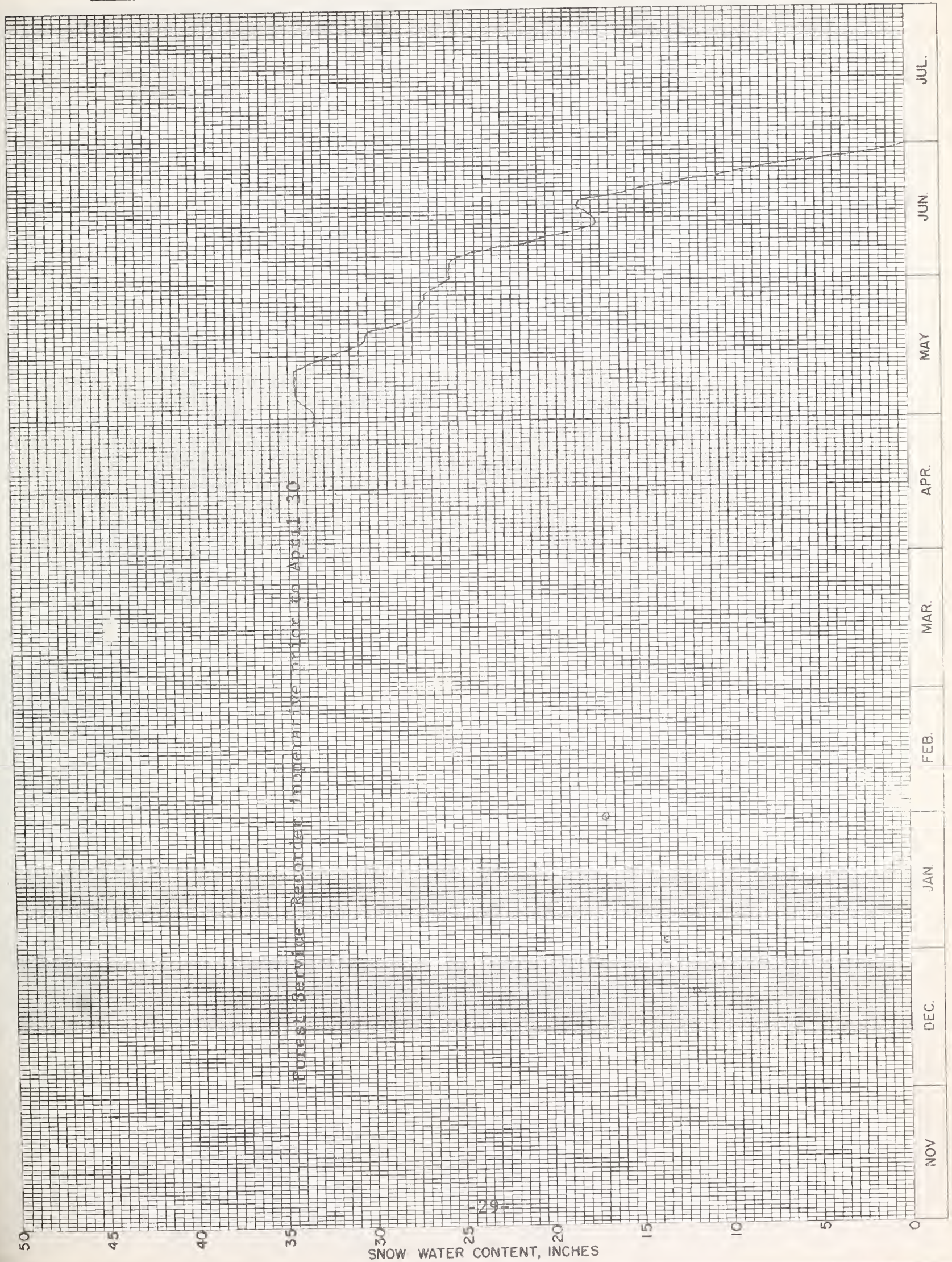
Drainage Gallatin



SNOW PILLOW DATA
WATER YEAR 1973

CARROT BASIN

No. 11E29 Elev. 9000' Drainage Gallatin



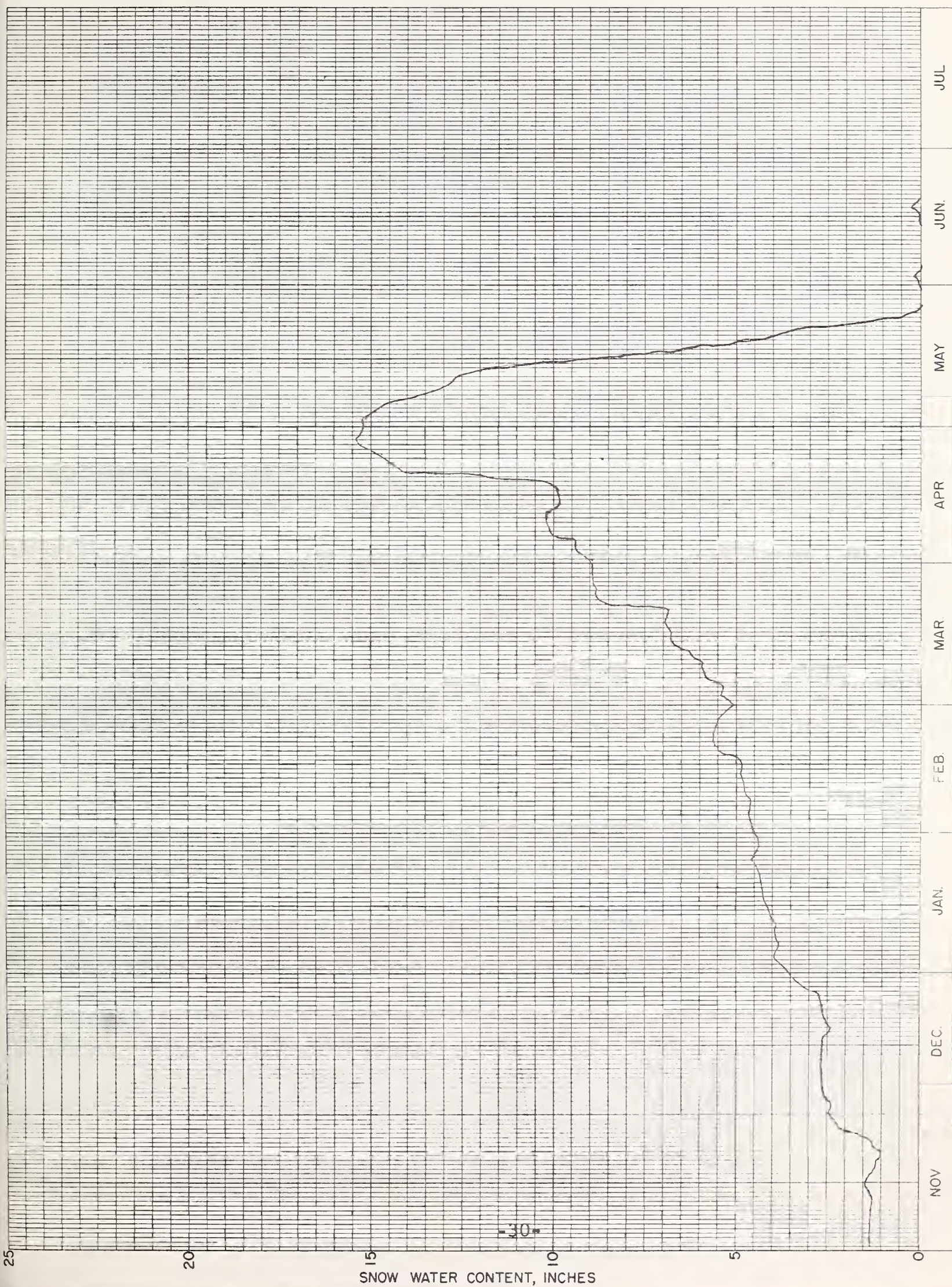
SNOW PILLOW DATA
WATER YEAR 1973

LICK CREEK

No. 10D13

Elev. 6860'

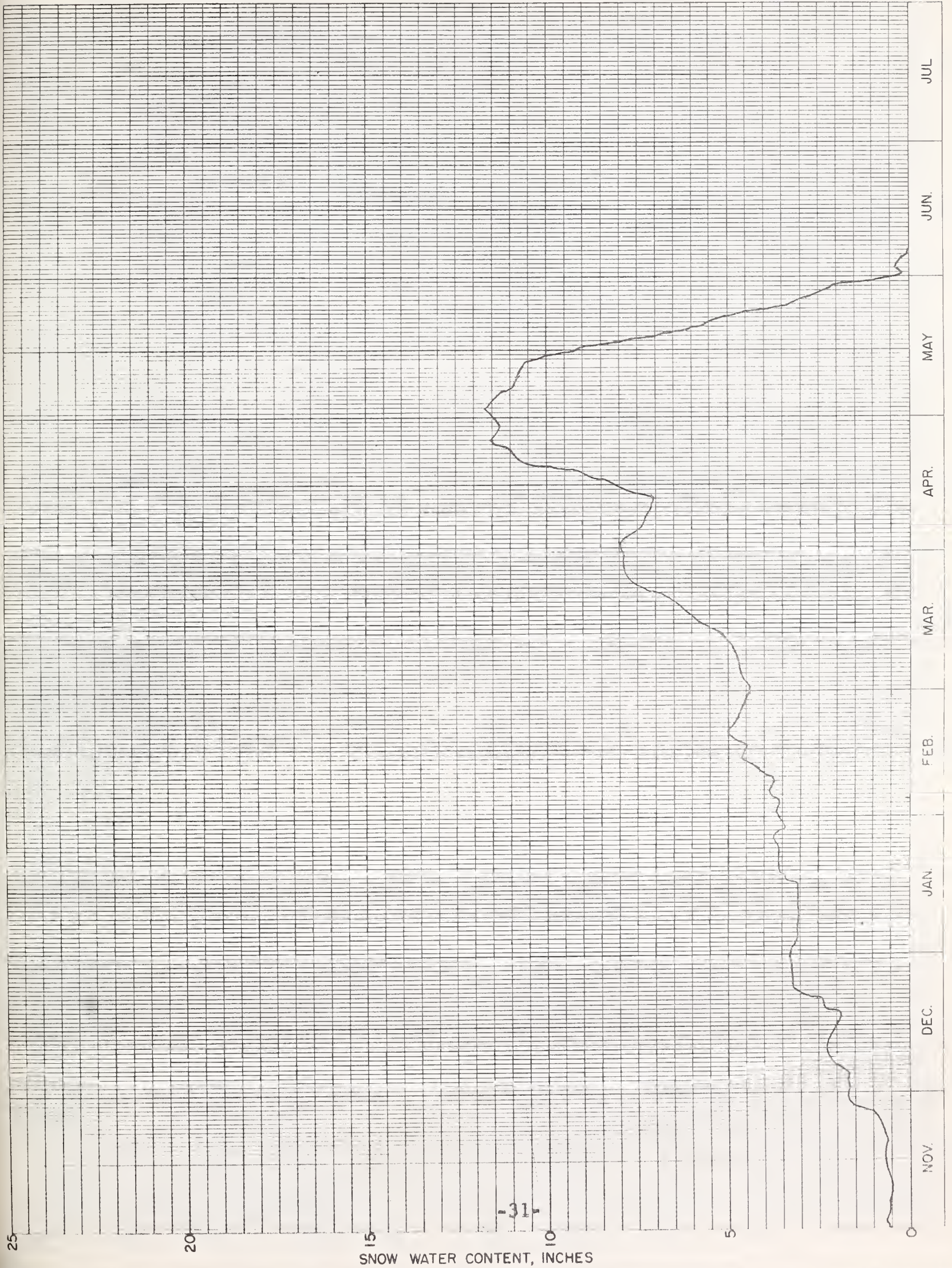
Drainage. Gallatin



SNOW PILLOW DATA
WATER YEAR 1973

MAYNARD CREEK

No. 10D18 Elev. 6210' Drainage. Gallatin



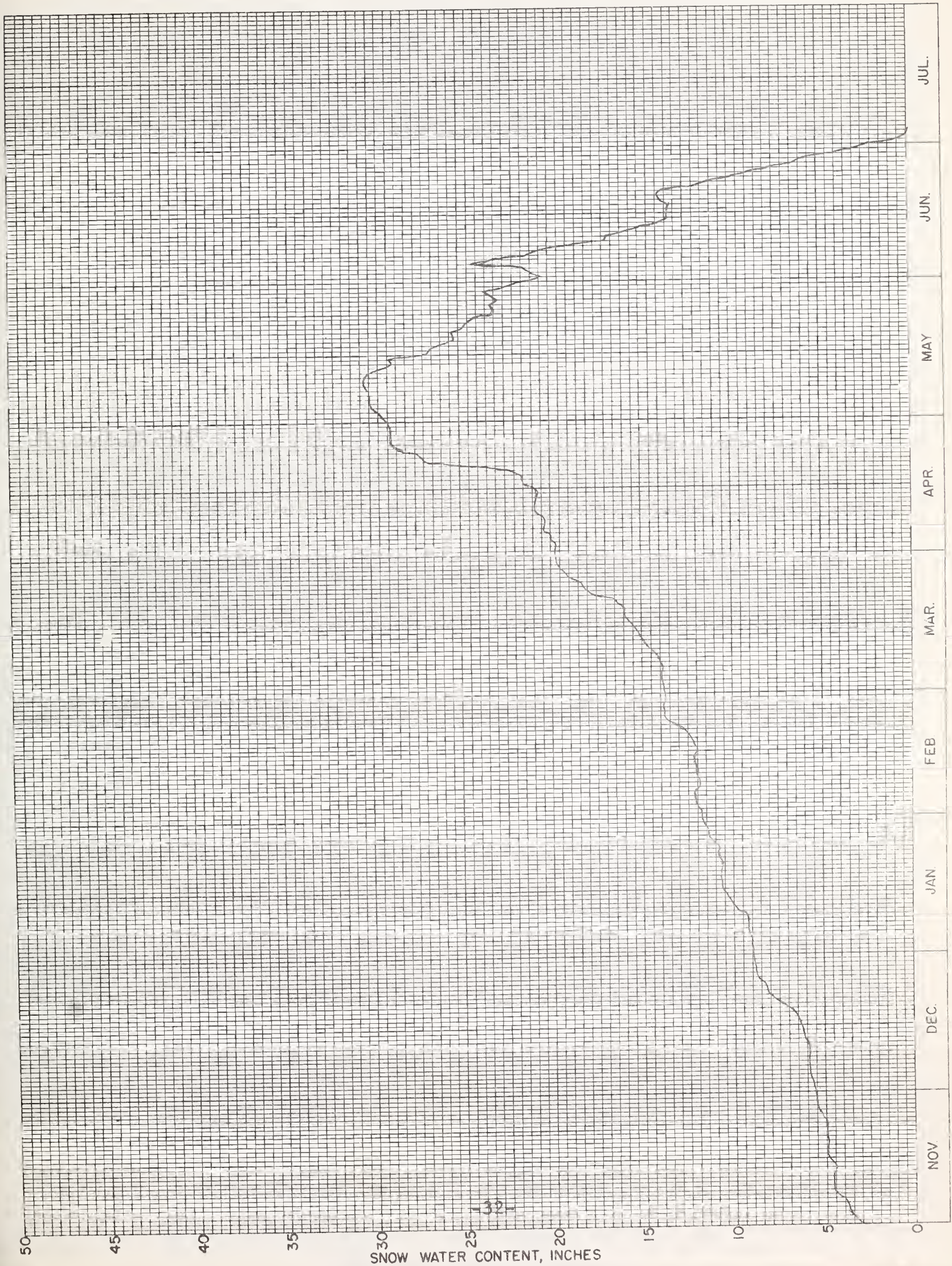
SNOW PILLOW DATA
WATER YEAR 1973

SHOWER FALLS

No. 10D16

Elev. 8100'

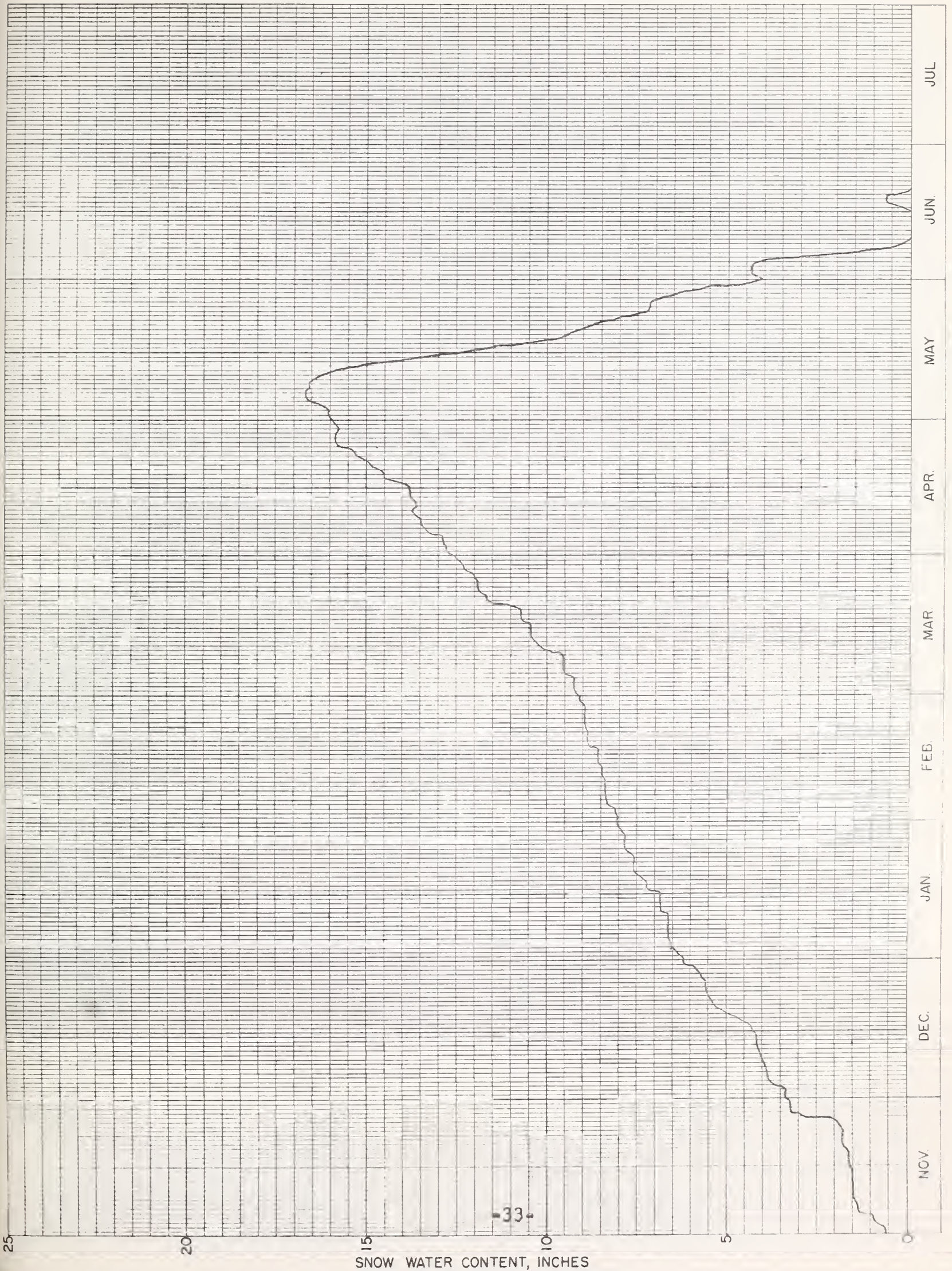
Drainage Gallatin



SNOW PILLOW DATA
WATER YEAR 1973

TAYLOR PEAKS

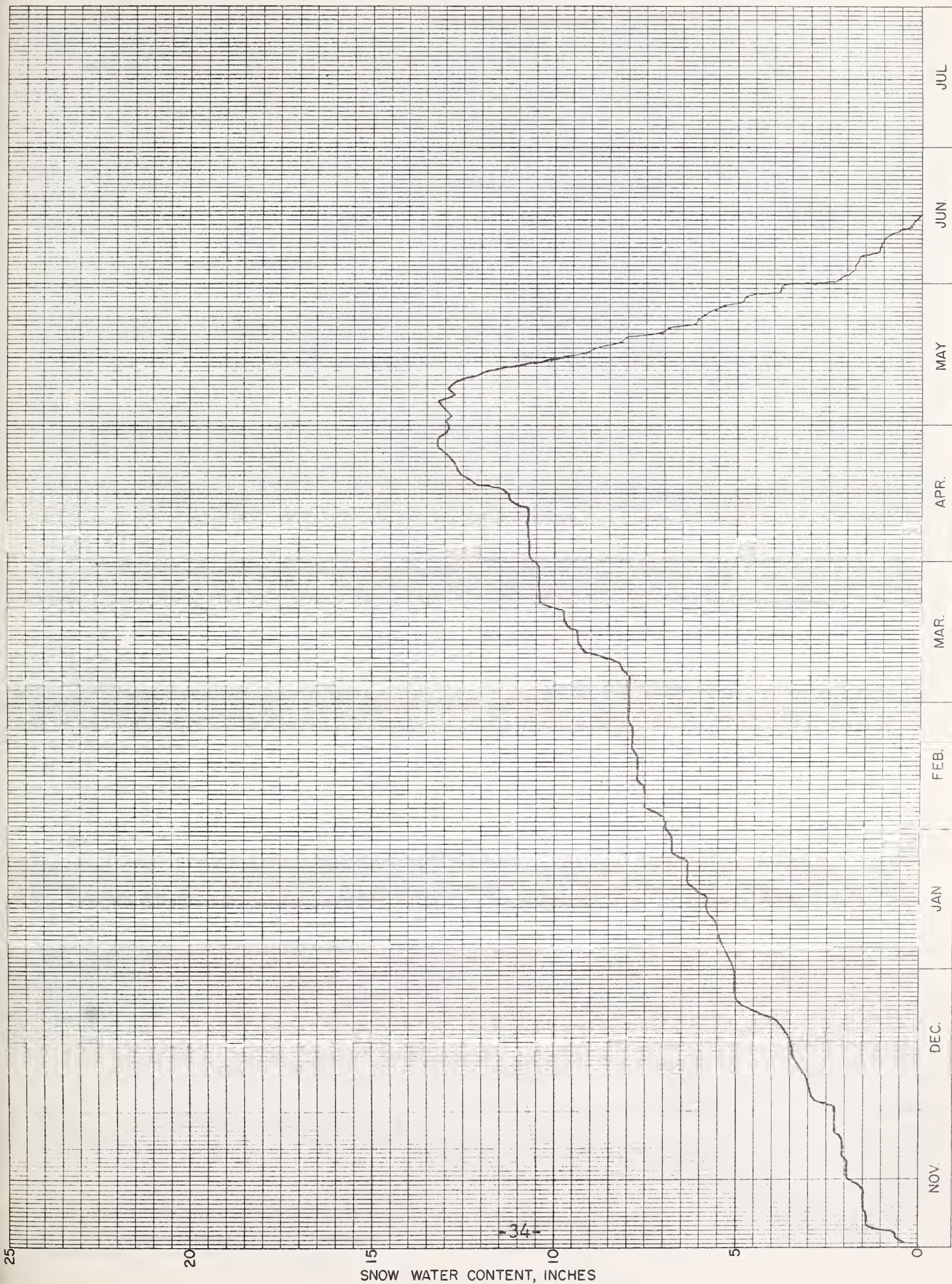
No. 11D13 Elev. 8500' Drainage. Gallatin



SNOW PILLOW DATA
WATER YEAR 1973

TEPEE CREEK

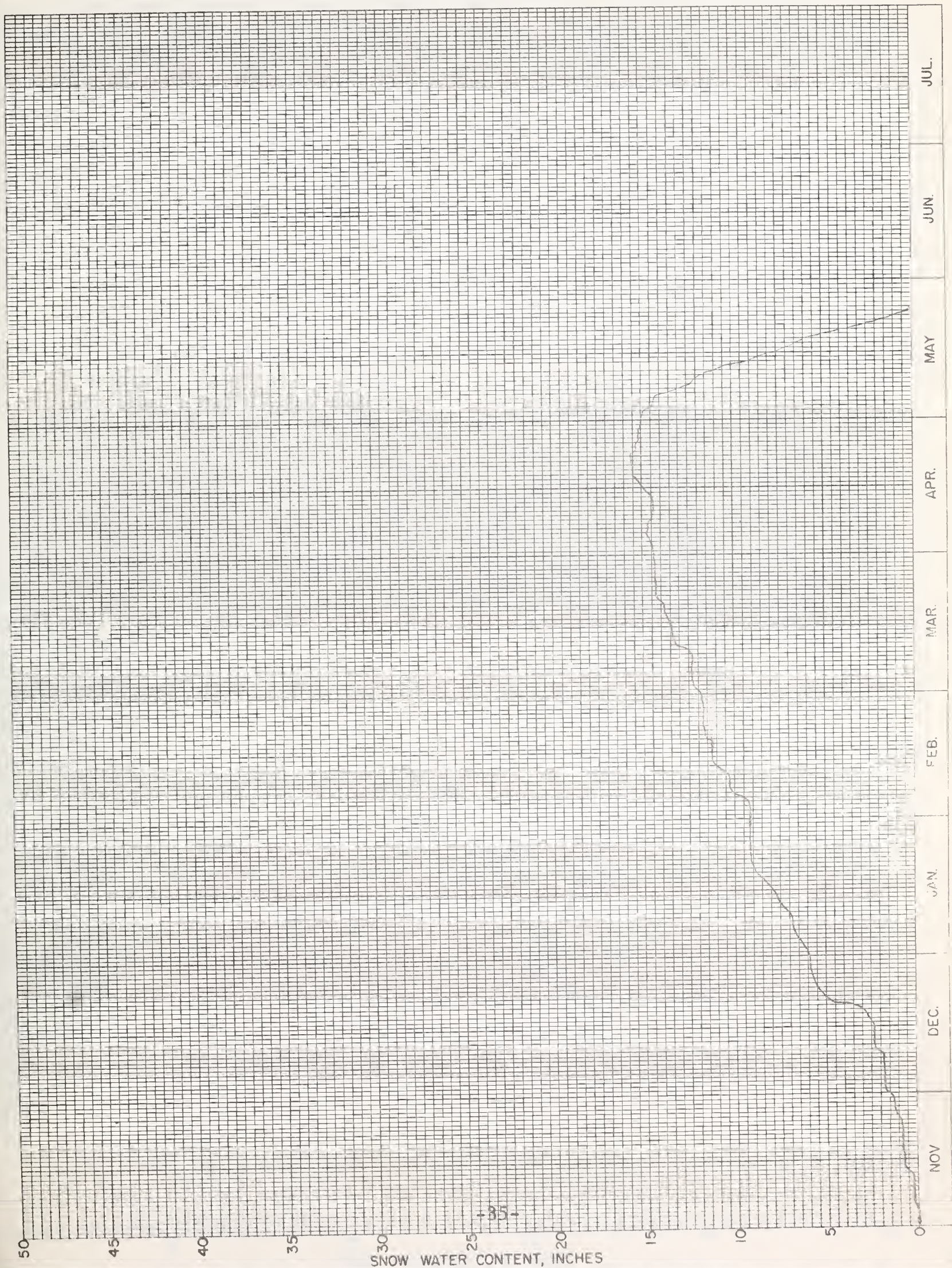
No. 11E24 Elev. 8000' Drainage. Gallatin



SNOW PILLOW DATA
WATER YEAR 1973

WHISKEY CREEK

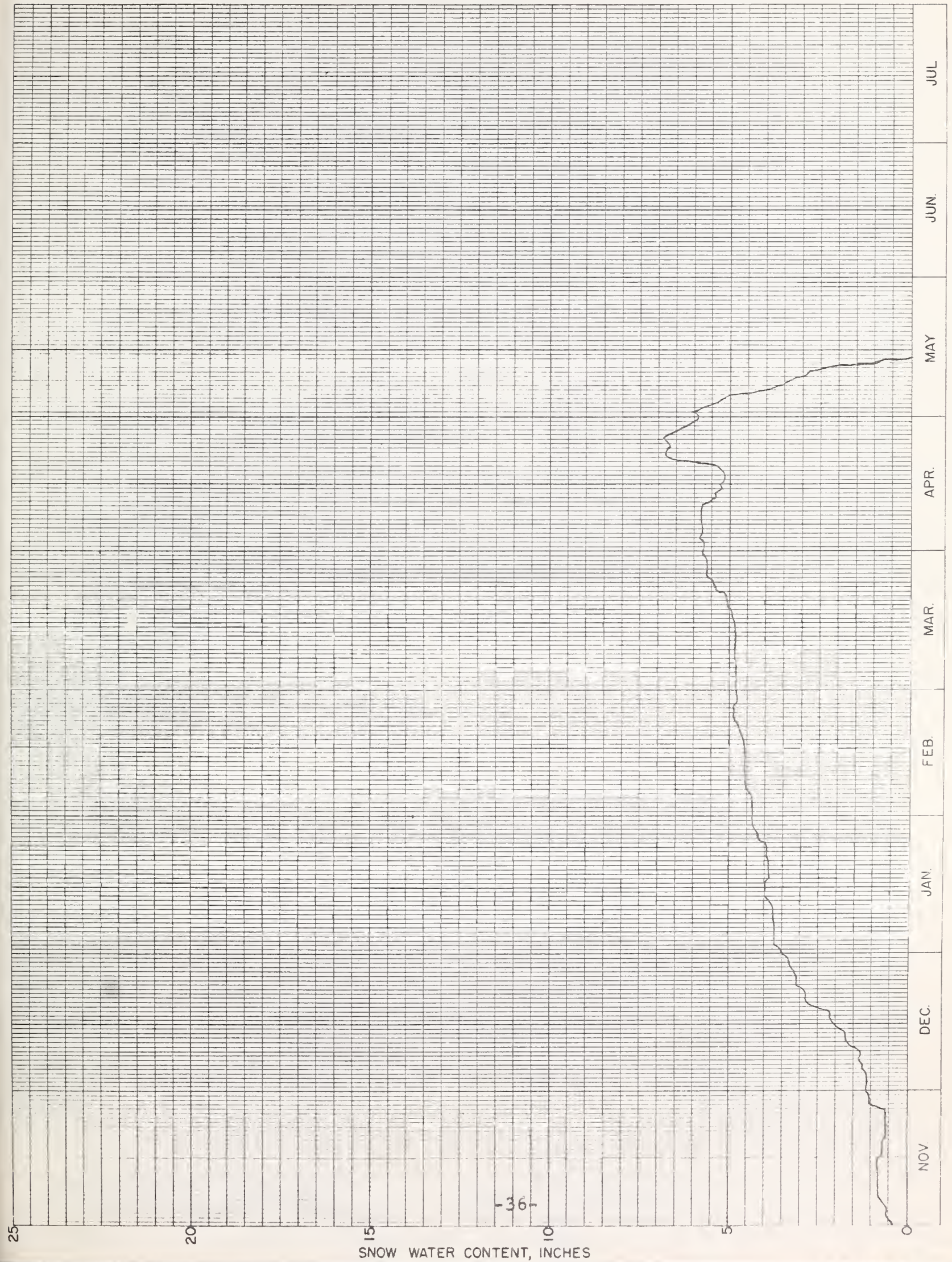
No. 11E30 Elev. 6800' Drainage: Gallatin



SNOW PILLOW DATA
WATER YEAR 1973

DEADMAN CREEK

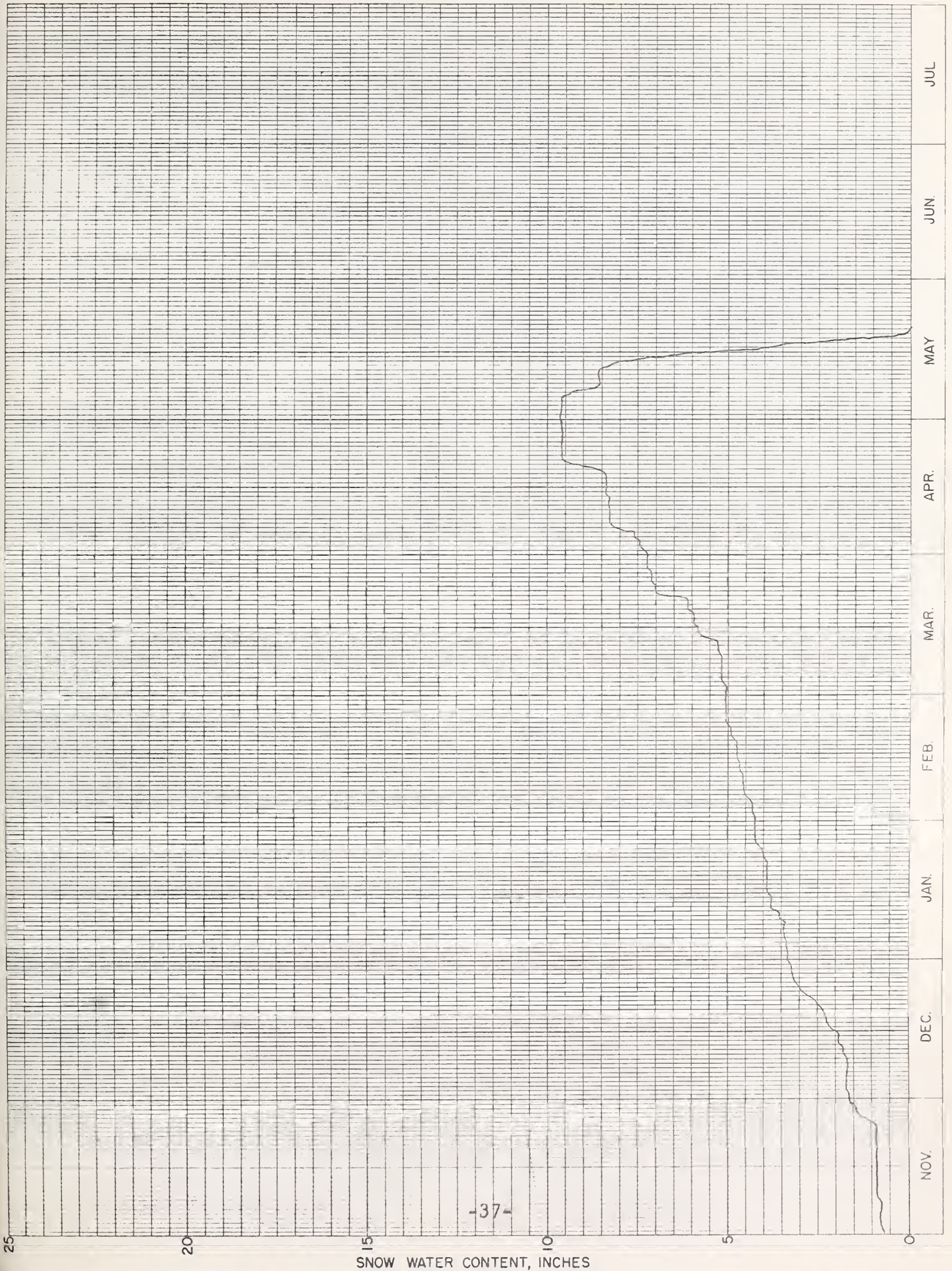
No. 10C09 Elev. 6450' Drainage. Missouri Main Stem



SNOW PILLOW DATA
WATER YEAR 1973

FROHNER MEADOWS

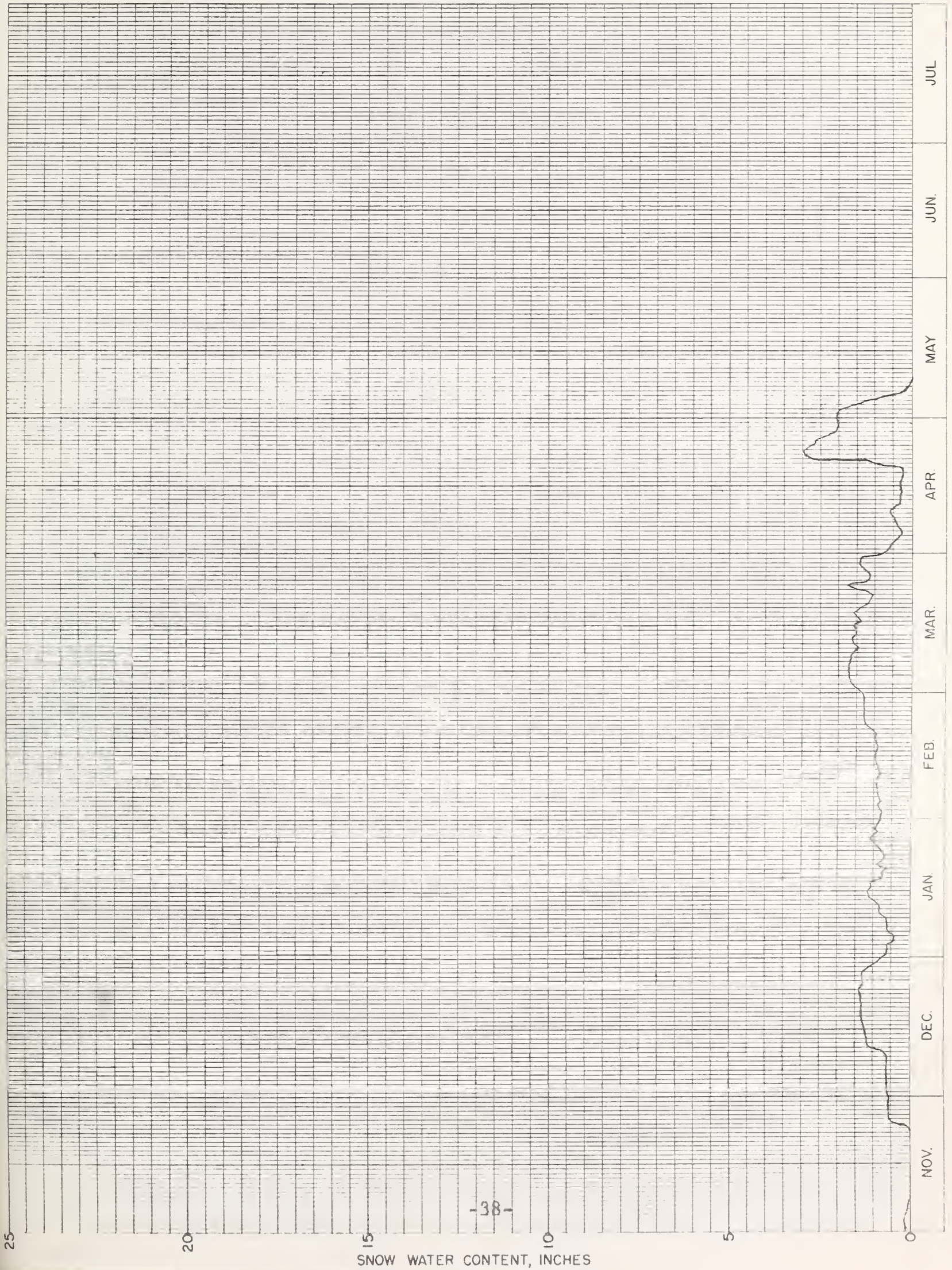
No. 12C13 Elev. 6480' Drainage. Missouri Main Stem



SNOW PILLOW DATA
WATER YEAR 1973

ROCKY BOY

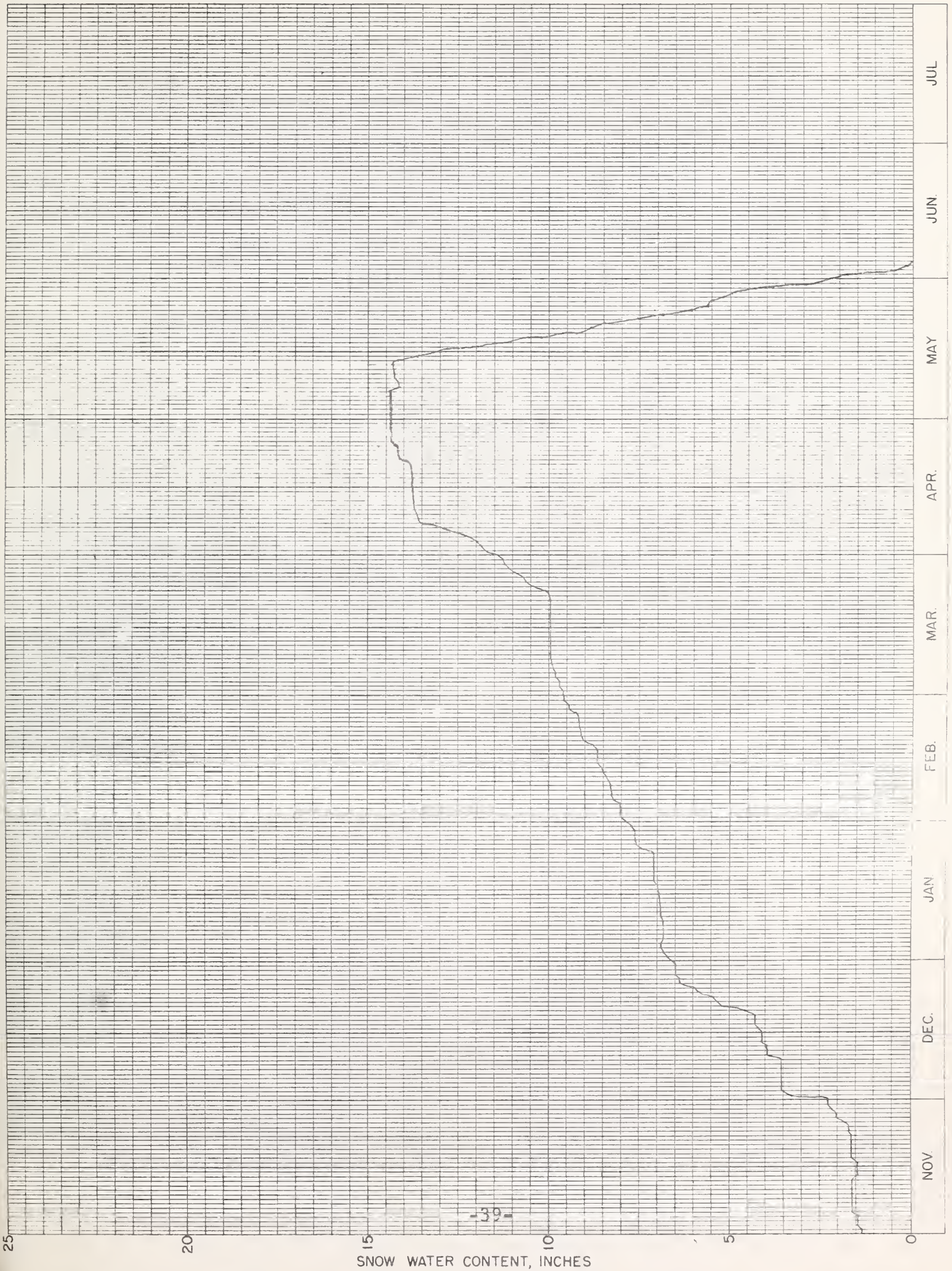
No. 9A01 Elev. 4700' Drainage. Milk



SNOW PILLOW DATA
WATER YEAR 1973

MOUNT LOCKHART

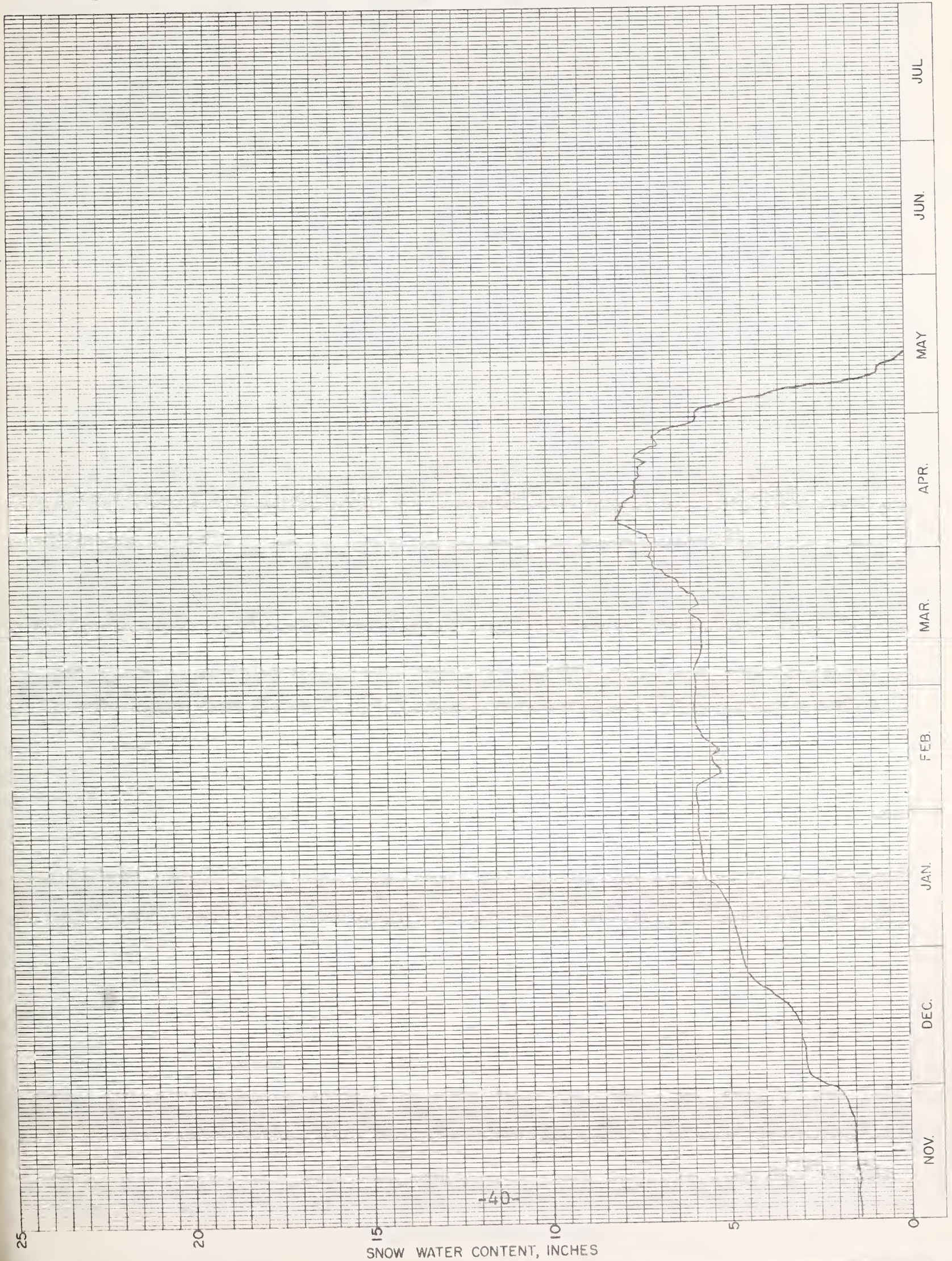
No. 12B12 Elev. 6400' Drainage. Sun-Teton-Marias



SNOW PILLOW DATA
WATER YEAR 1973

WALDRON

No. 12B13 Elev. 5600' Drainage. Sun-Teton-Marias



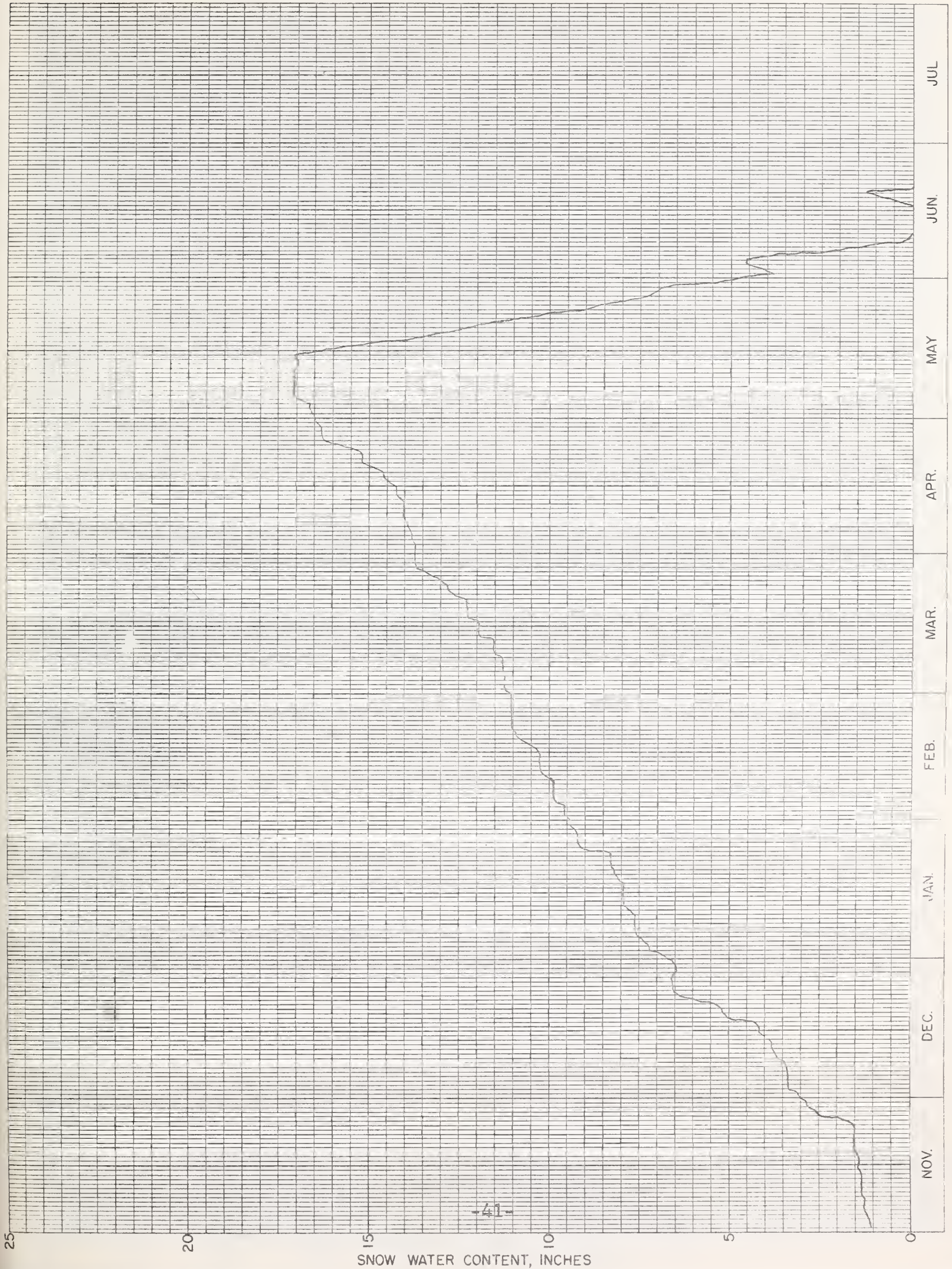
SNOW PILLOW DATA
WATER YEAR 1973

SPUR PARK

No. 10C06

Elev. 8000'

Drainage. Judith



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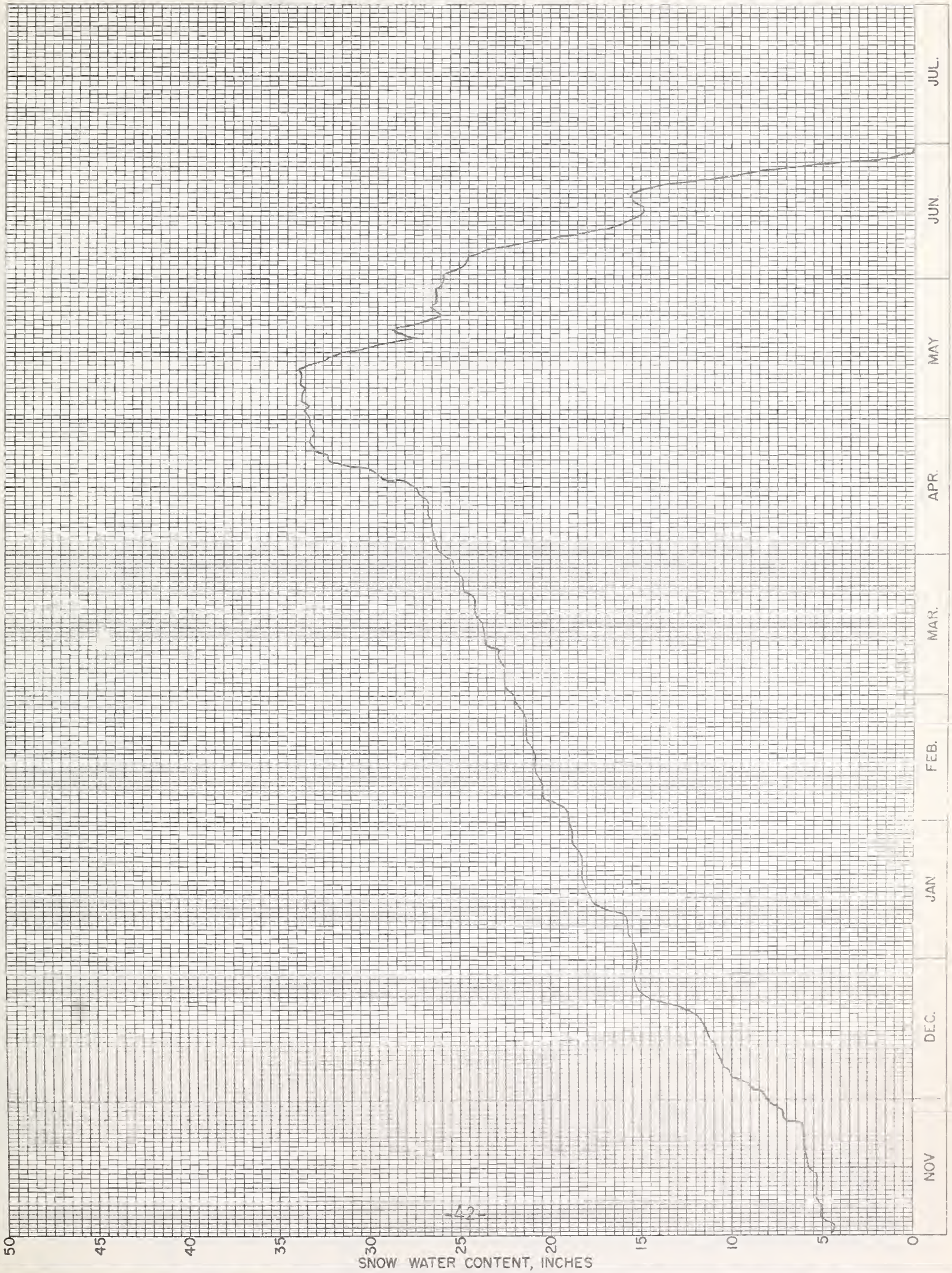
SNOW PILLOW DATA
WATER YEAR 1973

FISHER CREEK

No. 9D06

Elev. 9100'

Drainage Yellowstone



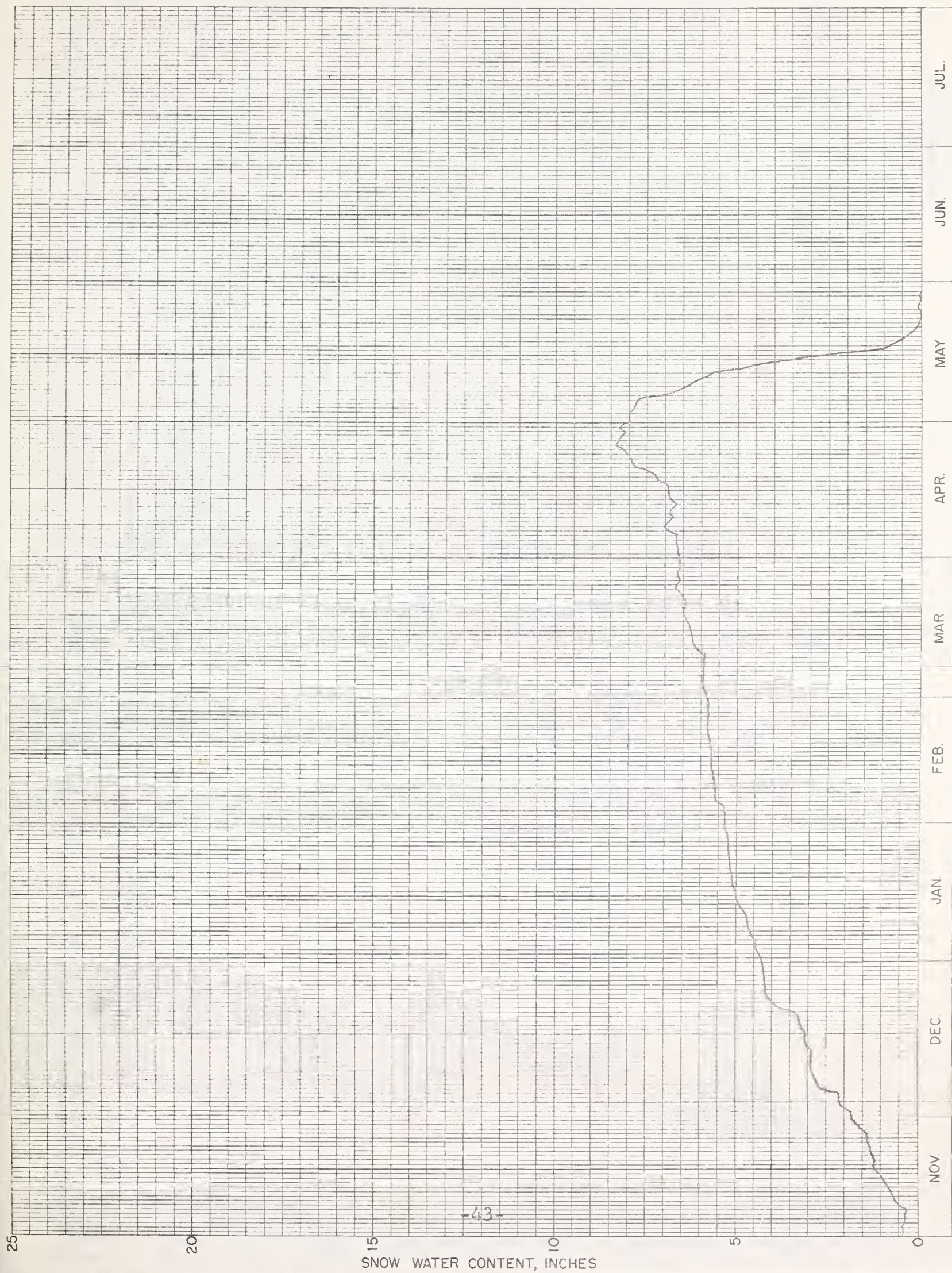
SNOW PILLOW DATA
WATER YEAR 1973

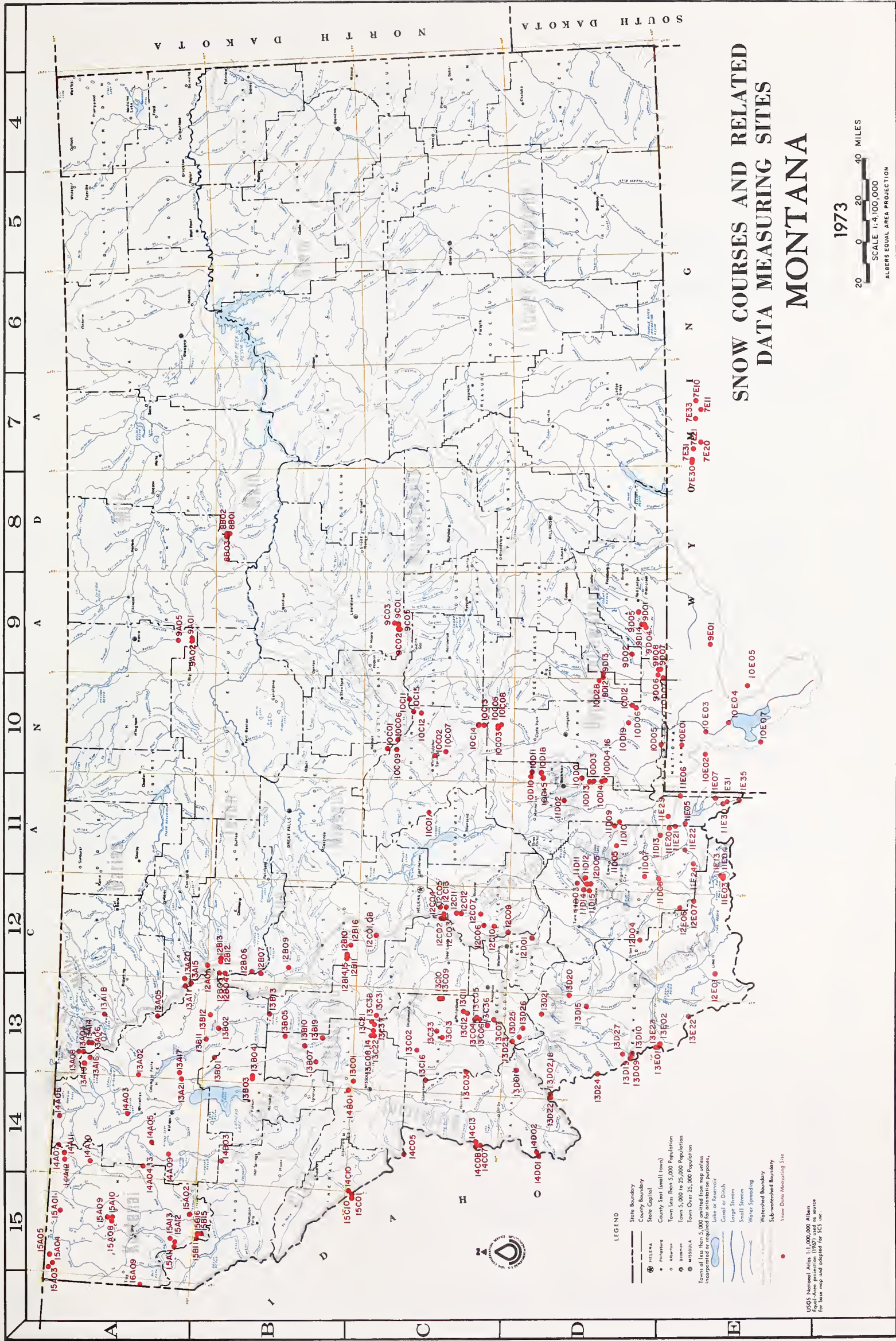
NORTHEAST ENTRANCE

No. 10D07

Elev. 7350'

Drainage. Yellowstone





USGS National Atlas 1:4,000,000 Albers
Equal-Area Projection (1967) used as source
for base map and adapted for SCS use

INDEX to MONTANA SNOW COURSES and SOIL MOISTURE STATIONS

NEW COURSES

COLUMBIA RIVER BASIN

[illegible]

SNOW COURSES										MISSOURI RIVER BASIN										MUSSELSHELL RIVER									
COLUMBIA RIVER BASIN										BEAVERHEAD RIVER										MISSOURI RIVER BASIN									
13A11	13A08	5700	6	27N	31E	1969	3,4,5,53,6	1	13D10	7600	12	8S	16W	1948	2,3,4,5	1	10C15	7600	34	11N	11E	1969	3,4,5	2					
13A09	13A07	5700	4	32N	30E	1969	2,3,4,5,53,6		12D04	7400	22	8S	7W	1963	3,4,5		10C13	7000	2	5N	10E	1969	3,4,5	2					
13B11	13B10	5500	36	26N	31W	1956	3,4,5,53,6		12D05	7400	24	14S	12W	1965	3,4,5		10C14	6400	26	6N	10E	1969	3,4,5	2					
13B16	13B15	4800	31	28N	30W	1966	3,4,5,53,6		13D01	7400	22	14S	12W	1965	3,4,5		10C15	6400	26	6N	10E	1969	3,4,5	2					
13B17	13B16	4800	31	28N	30W	1966	3,4,5,53,6		13D02	7400	22	14S	12W	1965	3,4,5		10C16	6400	26	6N	10E	1969	3,4,5	2					
13B18	13B17	4800	31	28N	30W	1966	3,4,5,53,6		13D03	7400	22	14S	12W	1965	3,4,5		10C17	6400	26	6N	10E	1969	3,4,5	2					
13B19	13B18	4800	31	28N	30W	1966	3,4,5,53,6		13D04	7400	22	14S	12W	1965	3,4,5		10C18	6400	26	6N	10E	1969	3,4,5	2					
13B20	13B19	4800	31	28N	30W	1966	3,4,5,53,6		13D05	7400	22	14S	12W	1965	3,4,5		10C19	6400	26	6N	10E	1969	3,4,5	2					
13B21	13B20	4800	31	28N	30W	1966	3,4,5,53,6		13D06	7400	22	14S	12W	1965	3,4,5		10C20	6400	26	6N	10E	1969	3,4,5	2					
13B22	13B21	4800	31	28N	30W	1966	3,4,5,53,6		13D07	7400	22	14S	12W	1965	3,4,5		10C21	6400	26	6N	10E	1969	3,4,5	2					
13B23	13B22	4800	31	28N	30W	1966	3,4,5,53,6		13D08	7400	22	14S	12W	1965	3,4,5		10C22	6400	26	6N	10E	1969	3,4,5	2					
13B24	13B23	4800	31	28N	30W	1966	3,4,5,53,6		13D09	7400	22	14S	12W	1965	3,4,5		10C23	6400	26	6N	10E	1969	3,4,5	2					
13B25	13B24	4800	31	28N	30W	1966	3,4,5,53,6		13D10	7400	22	14S	12W	1965	3,4,5		10C24	6400	26	6N	10E	1969	3,4,5	2					
13B26	13B25	4800	31	28N	30W	1966	3,4,5,53,6		13D11	7400	22	14S	12W	1965	3,4,5		10C25	6400	26	6N	10E	1969	3,4,5	2					
13B27	13B26	4800	31	28N	30W	1966	3,4,5,53,6		13D12	7400	22	14S	12W	1965	3,4,5		10C26	6400	26	6N	10E	1969	3,4,5	2					
13B28	13B27	4800	31	28N	30W	1966	3,4,5,53,6		13D13	7400	22	14S	12W	1965	3,4,5		10C27	6400	26	6N	10E	1969	3,4,5	2					
13B29	13B28	4800	31	28N	30W	1966	3,4,5,53,6		13D14	7400	22	14S	12W	1965	3,4,5		10C28	6400	26	6N	10E	1969	3,4,5	2					
13B30	13B29	4800	31	28N	30W	1966	3,4,5,53,6		13D15	7400	22	14S	12W	1965	3,4,5		10C29	6400	26	6N	10E	1969	3,4,5	2					
13B31	13B30	4800	31	28N	30W	1966	3,4,5,53,6		13D16	7400	22	14S	12W	1965	3,4,5		10C30	6400	26	6N	10E	1969	3,4,5	2					
13B32	13B31	4800	31	28N	30W	1966	3,4,5,53,6		13D17	7400	22	14S	12W	1965	3,4,5		10C31	6400	26	6N	10E	1969	3,4,5	2					
13B33	13B32	4800	31	28N	30W	1966	3,4,5,53,6		13D18	7400	22	14S	12W	1965	3,4,5		10C32	6400	26	6N	10E	1969	3,4,5	2					
13B34	13B33	4800	31	28N	30W	1966	3,4,5,53,6		13D19	7400	22	14S	12W	1965	3,4,5		10C33	6400	26	6N	10E	1969	3,4,5	2					
13B35	13B34	4800	31	28N	30W	1966	3,4,5,53,6		13D20	7400	22	14S	12W	1965	3,4,5		10C34	6400	26	6N	10E	1969	3,4,5	2					
13B36	13B35	4800	31	28N	30W	1966	3,4,5,53,6		13D21	7400	22	14S	12W	1965	3,4,5		10C35	6400	26	6N	10E	1969	3,4,5	2					
13B37	13B36	4800	31	28N	30W	1966	3,4,5,53,6		13D22	7400	22	14S	12W	1965	3,4,5		10C36	6400	26	6N	10E	1969	3,4,5	2					
13B38	13B37	4800	31	28N	30W	1966	3,4,5,53,6		13D23	7400	22	14S	12W	1965	3,4,5		10C37	6400	26	6N	10E	1969	3,4,5	2					
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13B40	13B39	4800	31	28N	30W	1966	3,4,5,53,6		13D25	7400	22	14S	12W	1965	3,4,5		10C39	6400	26	6N	10E	1969	3,4,5	2					
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13B43	13B42	4800	31	28N	30W	1966	3,4,5,53,6		13D28	7400	22	14S	12W	1965	3,4,5		10C42	6400	26	6N	10E	1969	3,4,5	2					
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13B48	13B47	4800	31	28N	30W	1966	3,4,5,53,6		13D33	7400	22	14S	12W	1965	3,4,5		10C47	6400	26	6N	10E	1969	3,4,5	2					
13B49	13B48	4800	31	28N	30W	1966	3,4,5,53,6		13D34	7400	22	14S	12W	1965	3,4,5		10C48	6400	26	6N	10E	1969	3,4,5	2					
13B50	13B49	4800	31	28N	30W	1966	3,4,5,53,6		13D35	7400	22	14S	12W	1965	3,4,5		10C49	6400	26	6N	10E	1969	3,4,5	2					
13B51	13B50	4800	31	28N	30W	1966	3,4,5,53,6		13D36	7400	22	14S	12W	1965	3,4,5		10C50	6400	26	6N	10E	1969	3,4,5	2					
13B52	13B51	4800	31	28N	30W	1966	3,4,5,53,6		13D37	7400	22	14S	12W	1965	3,4,5		10C51	6400	26	6N	10E	1969	3,4,5	2					
13B53	13B52	4800	31	28N	30W	1966	3,4,5,53,6		13D38	7400	22	14S	12W	1965	3,4,5		10C52	6400	26	6N	10E	1969	3,4,5	2					
13B54	13B53	4800	31	28N	30W	1966	3,4,5,53,6		13D39	7400	22	14S	12W	1965	3,4,5		10C53	6400	26	6N	10E	1969	3,4,5	2					
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13B58	13B57	4800	31	28N	30W	1966	3,4,5,53,6		13D43	7400	22	14S	12W	1965	3,4,5		10C57	6400	26	6N	10E	1969	3,4,5	2					
13B59	13B58	4800	31	28N	30W	1966	3,4,5,53,6		13D44	7400	22	14S	12W	1965	3,4,5		10C58	6400	26	6N	10E	1969	3,4,5	2					
13B60	13B59	4800	31	28N	30W	1966	3,4,5,53,6		13D45	7400	22	14S	12W	1965	3,4,5		10C59	6400	26	6N	10E	1969	3,4,5	2					
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13B62	13B61	4800	31	28N	30W	1966	3,4,5,53,6		13D47	7400	22	14S	12W	1965	3,4,5		10C61	6400	26	6N	10E	1969	3,4,5	2					
13B63	13B62	4800	31	28N	30W	1966	3,4,5,53,6		13D48	7400	22	14S	12W	1965	3,4,5		10C62	6400	26	6N	10E	1969	3,4,5	2					
13B64	13B63	4800	31	28N	30W	1966	3,4,5,53,6		13D49	7400	22	14S	12W	1965	3,4,5		10C63	6400	26	6N	10E	1969	3,4,5	2					
13B65	13B64	4800	31	28N	30W	1966	3,4,5,53,6		13D50	7400	22	14S	12W	1965	3,4,5		10C64	6400	26	6N	10E	1969	3,4,5	2					
13B66	13B65	4800	31	28N	30W	1966	3,4,5,53,6		13D51	7400	22	14S	12W	1965	3,4,5		10C65	6400	26	6N	10E	1969	3,4,5	2					
13B67	13B66	4800	31	28N	30W	1966	3,4,5,53,6		13D52	7400	22	14S	12W	1965	3,4,5		10C66	6400	26	6N	10E	1969	3,4,5	2					
13B68	13B67	4800	31	28N	30W	1966	3,4,5,53,6		13D53	7400	22	14S	12W	1965	3,4,5		10C67	6400	26	6N	10E	1969	3,4,5	2					
13B69	13B68	4800	31	28N	30W	1966	3,4,5,53,6		13D																				

1/ Numerals 1, 2, 3, 4, 5, 5½, 6 refer to January 1, February 1, March 1, April 1, May 1, May 15, and June 1

1. Soil Conservation Service
2. Forest Service
3. Geological Survey
4. Montana Power Company
5. Bureau of Indian Affairs
6. National Park Service
7. HSB Agricultural Experiment Station
8. U. of M. School of Forestry
9. Department of Energy, Mines and Resources
10. Bureau of Sports Fisheries and Wildlife
11. Private Operator
12. Montana Conservation Officers
13. Montana Department of Fish and Game

HUDSON BAY BASIN

[illegible]

Agencies and Organizations Cooperating in Montana Snow Surveys

GOVERNMENT AGENCIES

Canada:

Water Survey of Canada, Calgary, Department of the
Environment
Water Resources Service, Department of Lands, Forests
and Water Resources, British Columbia

Federal:

Department of the Army
Corps of Engineers
U.S. Department of Agriculture
Forest Service
Soil Conservation Service
U.S. Department of Commerce
NOAA, National Weather Service
U.S. Department of the Interior
Bonneville Power Administration
Bureau of Indian Affairs
Bureau of Reclamation
Bureau of Sports Fisheries and Wildlife
Geological Survey
National Park Service

STATE

Montana Conservation Districts
Montana Department of Fish and Game
Montana Department of Natural Resources and
Conservation
Montana Water Resources Board
Montana State University - Agricultural Experiment
Station
North Montana Branch Station - Agricultural
Experiment Station
University of Montana - School of Forestry

PRIVATE

Montana Power Company

Other organizations and individuals furnish valuable
information for snow survey reports. Their cooperation
is gratefully acknowledged.

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with the Snow Survey"*